NOVA SCOTIA DEPARTMENT OF NATURAL RESOURCES

DIAMOND DRILLHOLE LOG FOR NSDNR-**NBR-94-1**

NORTH BEAVERBANK - STEVE'S ROAD OCCURRENCE

DRILLED BY: NSDNR LOGGED BY: R. J. RYAN

Total Depth: 122.6 m Inclined: 45° at 360°

LEGEND

META-QUARTZARENITE:
ARGILLITE:
LIMESTONE:
META-QUARTZARENITE: LIMESTONE:
META-GREYWACKE:
SLATE:
SILTY SLATE:
SPOTTED HORNFELS:

Depth	Description
0.0 to -4.0	NO SAMPLE RECOVERED. OVERBURDEN
-4.0 to -7.5	SILTY SLATE; SPOTTED HORNFELS; SLATY; fine grained, medium greenish grey, common biotite, blebs, laminated, micaceous, trace of sulphides.
-7.5 to -10.6	META-QUARTZARENITE: medium to coarse gr., mottled light medium grey, biotite, muscovite, obscurely laminated, limonite staining on rare fractures, sub-angular, moderate sphericity moderately sorted.
-10.6 to -12.0	META-QUARTZARENITE: fine to medium gr., medium dark grey, common biotite, massive bedding, micaceous, sub-angular, moderately sorted, trace sulphides.
-12.0 to -16.8	META-QUARTZARENITE: medium to coarse gr., light grey, biotite, muscovite, massive bedding, MILD FRACTURE-CONTROLLED carbonate alteration, calcareous, fractures, subrangular, well sorted.
-16.8 to -18.3	META-QUARTZARENITE: medium grained medium brown, grey, biotite, muscovite, laminated, MILD FRACTURE-CONTROLLED carbonate alteration, calcareous, fractures, sub-angular, moderately sorted, trace of sulphides, minor limonite staining.
-18.3 to -30.9	META-QUARTZARENITE: FRACTURED, fine to medium gr., light medium brown, grey, biotite, muscovite, sulphides, disrupted, massive bedding, MODERATE FRACTURE-CONTROLLED carbonate alteration, with calcite and sulphide stringers on the fracture planes, limonite staining, sub-angular, moderately sorted, should be the mineralized zone equiv. to c/o. fractures at 20-60 degrees to CA.
-30.9 to -32.9	SPOTTED HORNFELS: meta-siltstone with biotite clots as spots, SPOTTED, very fine grained, variegated, light medium grey, biotite, blebs, cross laminated. Right way up, with calcareous, fractures, sulphides on fractures.
-32.9 to -37.5	META-QUARTZARENITE: eucrasic, medium to coarse grained light buff grey, common biotite, muscovite, sulphides on fractures at 45 deg. to CA, massive bedding, INTENSE FRACTURE-CONTROLLED carbonate alteration, with calcareous, zones, sub-angular, well sorted.
-37.5 to -43.5	META-QUARTZARENITE: Fine to medium gr., light medium grey, common biotite, muscovite, laminated, MILD carbonate alteration, calcite fractures, sub-angular, well sorted, a few fractures at 45 degrees to CA with calcite and sulphides.
-43.5 to -47.0	ARGILLITE: SPOTTED HORNFELS: interbedded meta siltstone and fine sandstone, spotted nature due to biotite clots in finer beds. Fine grained, medium olive grey, common biotite, muscovite, laminated, cross laminated, MILD FRACTURE-CONTROLLED carbonate alteration, sulphides present.
-47.0 to -53.1	META-QUARTZARENITE: medium grained, medium grey, common biotite, muscovite, obscurely laminated, MILD FRACTURE-CONTROLLED carbonate alteration, calcareous, fractures, at 20 deg. to CA, sub-rounded, moderately sorted, clay rich matrix? a few sulphides on fractures.
-53.1 to -56.3	META-QUARTZARENITE: SPOTTED, fine to medium gr., light grey, common biotite blebs or spots of alteration, INTENSE SPOTTY carbonate alteration, with calcite fractures, at 45 deg to CA., sub-angular, trace of sulphides.
-56.3 to -56.7	META-QUARTZARENITE: FRACTURED, fine grained, light grey, marble like texture, common sulphides.
-56.7 to -57.9	META-QUARTZARENITE: SPOTTED, Fine grained, medium grey, common sulphides, carbonate spotting, calcite veinlets on fractures at 45 to CA, massive bedding, INTENSE SPOTTY carbonate alteration, micaceous, sub-angular, poorly sorted, clay matrix?
-57.9 to -59.5	META-QUARTZARENITE: FRACTURED, fine to medium grained, light grey, common sulphides, massive bedding, MODERATE FRACTURE-CONTROLLED carbonate alteration, spotted carbonate alteration at base of unit, a few composite veinlets at 30 deg to CA with calcite and chlorite (Dark soft mineral), sub-angular.
-59.5 to -60.1	SPOTTED HORNFELS: fine grained, medium greenish grey, abundant biotite, blebs, laminated, MODERATE FRACTURE-CONTROLLED carbonate alteration, micaceous, sulphide blebs up to 2 cm flat on fractures, salt and pepper texture.
-60.1 to -64.7	META-QUARTZARENITE: fine to medium gr., mottled, light medium grey, common biotite, muscovite, minor sulphides, marble like textures in places, massive bedding, MILD FRACTURE-CONTROLLED carbonate alteration, micaceous, sub-angular, moderately sorted, a few true meta-greywacke interbeds (k g)
-64.7 to -65.0	SILTY SLATE: SPOTTED, medium greenish grey, laminated, biotite clots make up spotty texture.
-65.0 to -65.3	META-QUARTZARENITE: medium grey, massive bedding, micaceous, sub-angular.
-65.3 to -66.5	META-QUARTZARENITE: medium grained, medium grey, common biotite, muscovite, laminated, at 80 to CA, MILD carbonate alteration, with trace of sulphides, calcareous, whisps, finer at base is slate.
-66.5 to -68.8	META-QUARTZARENITE: medium grained, medium grey, common secondary calcite on fractures, a few thin (less than 5 cm)beds of silty slate, MODERATE FRACTURE-CONTROLLED carbonate alteration, micaceous, sub-angular, trace sulphides.
-68.8 to -69.0	META-GREYWACKE: Fine grained, medium grey, abundant clay in matrix, biotite common, laminated, with shaley, intervals, sub-angular.
-69.0 to -69.4	ARGILLITE: SULPHIDE-RICH, SPOTTED, Fine grained, common biotite, blebs, laminated, MILD carbonate alteration.
-69.4 to -70.0	META-QUARTZARENITE: medium grained, mottled, light medium grey, rare sulphides, disrupted, micaceous, sub-angular.
-70.0 to -72.9	META-GREYWACKE: fine grained, with silty slate interbeds up to 5 cm thick, medium greenish grey, minor sulphides, laminated. FRACTURE-CONTROLLED quartz-carbonate alteration, with thin quartz vein at 71.6 m 5mm thick with sulphide present, possible metallic?, poorly sorted, clay matrix.
-72.9 to -74.4	SILTY SLATE: SPOTTED HORNFELS: SPOTTED, fine grained, variegated, medium dark grey, common sulphides, laminated, MILD carbonate alteration, micaceous, biotite clots.
-74.4 to -76.7	META-QUARTZARENITE: fine to medium gr., minor sulphides, fining up, laminated and x-lam at top of unit, 75 to CA, SPOTTY carbonate alteration, sub-angular, moderately sorted.
-76.7 to -79.6	META-QUARTZARENITE: FRACTURED, medium grained, mottled greenish grey, common biotite on fractures, marble like texture, PERVASIVE FRACTURE-CONTROLLED carbonate alteration, calcite veins on fractures
-79.6 to -88.4	META-QUARTZARENITE: Medium grained medium grey, common biotite, muscovite, most of bedding, MILD carbonate alteration, on fractures, calcite with chlorite veins at 50 to CA, minor sulphides, veins less than 0.5 cm, sub-angular, moderately sorted.
-88.4 to -92.1	META-QUARTZARENITE: LINEATIONS, elongate carbonate alteration zones sub-parallel to CA, SPOTTED, medium grained, medium grey, minor sulphides, INTENSE SPOTTY carbonate alteration, calcite stringers, sub-angular.
-92.1 to -93.2	META-QUARTZARENITE: FRACTURED, medium grained medium grey, abundant calcite fractures with metallic? and sulphides, marble like texture, disrupted, INTENSE FRACTURE-CONTROLLED carbonate alteration, micaceous, sub-angular, veinlets of carbonate up to 3 mm thick.
-93.2 to -99.1	META-QUARTZARENITE: medium grained, medium grey, common biotite, muscovite, trace sulphides, massive bedding, MILD FRACTURE-CONTROLLED carbonate alteration, carbonate on fractures at 60 to CA, sub-angular, moderately sorted.
-99.1 to -103.4	META-QUARTZARENITE: LAMINATED, medium grained, light olive grey, common biotite, muscovite, cross laminated, at top, rare calcite veinlets, sub-angular.
-103.4 to -104.0	ARGILLITE: fine grained, dark grey, minor sulphides, laminated, MILD carbonate alteration, calcareous, whisps
-104.0 to -104.5	META-QUARTZARENITE: medium grained, medium grey, fining up, sub-rounded.
-104.5 to -105.1	META-QUARTZARENITE: FRACTURED, fine grained, medium grey, common chlorite, disrupted, INTENSE FRACTURE-CONTROLLED carbonate alteration, micaceous
-105.1 to -105.8	META-GREYWACKE: Fine grained, dark grey, biotite, muscovite, ARGILLITE, massive bedding, clayey, matrix, subrounded
-105.8 to -108.3	META-QUARTZARENITE: FRACTURED, medium grained, medium grey, biotite, muscovite, laminated, MILD FRACTURE-CONTROLLED carbonate alteration, micaceous, sub-angular
-108.3 to -109.0	ARGILLITE: SPOTTED, Fine grained, variegated, light medium greenish grey, minor sulphides, cross laminated, slaty cleavage, REL. lam. at 75 to CA.
-109.0 to -110.1	META-QUARTZARENITE: medium grained, light grey, rare sulphides, massive bedding, calcareous, laminae, sub-angular, moderately sorted.
-110.1 to -110.9	ARGILLITE: Fine grained, medium grey, minor sulphides, laminated, arenaceous, intervals
-110.9 to -115.0	META-QUARTZARENITE: SULPHIDE-RICH, FRACTURED, medium grained, mottled, medium grey, a few finer grained interbeds (less than 5 cm, INTENSE FRACTURE-CONTROLLED carbonate alteration, micaceous, sub-angular, moderately sorted, pyrite and another sulphide, less yellow colour.
-115.0 to -118.0	META-QUARTZARENITE: BLEACHED AND HIGHLY ALTERED, coarse grained, light greenish grey, abundant chlorite, massive bedding, PERVASIVE carbonate alteration, altered to the point that it looks like a Carboniferous arkose, with clayey, zones, sub-rounded, moderate sphericity moderately sorted, crumbly, rotten, minor magnetite, earthy, EXCELLENT POROSITY (saccharoidal granular), (intergranular).
-118.0 to -120.6	META-GREYWACKE: STOCKWORK, fine grained, medium grey, marble like texture caused by pervasive calcite filled very fine fractures, common sulphides, massive bedding, INTENSE FRACTURE-CONTROLLED carbonate alteration, micaceous, sub-angular.
-120.6 to -121.2	META-QUARTZARENITE: intensely altered, increased porosity, medium grained, light buff grey-green, common kaolinite, very calcareous in places, PERVASIVE carbonate alteration, calcareous, zones, sub-rounded, moderately sorted.
-121.2 to -122.6	META-GREYWACKE: STOCKWORK, crosscuted by numerous calcite veinlets on fractures, marble like texture, fine grained, medium grey, minor sulphides, INTENSE FRACTURE-CONTROLLED carbonate alteration, calcite filled fractures, sub-angular

22 m SOUTH OF THE OCCURRENCE

NOVA SCOTIA DEPARTMENT OF NATURAL RESOURCES

DIAMOND DRILLHOLE LOG FOR NSDNR-**NBR-94-2**

NORTH BEAVERBANK - STEVE'S ROAD OCCURRENCE

DRILLED BY: NSDNR LOGGED BY: R. J. RYAN

Total Depth: 123.5 m Inclined: 55° at 360°

LEGEND

META-QUARTZARENITE:
ARGILLITE:
LIMESTONE:
META-QUARTZARENITE: LIMESTONE:
META-GREYWACKE:
SLATE:
SILTY SLATE:
SPOTTED HORNFELS:

Depth	Description
OVERBURDEN	bouldere, meta-quartzarenite, lt grey, HQ core to 4.50m
-4.50 to -7.03	META-QUARTZARENITE: FRACTURED, medium grained, light olive grey, minor sulphides, laminated, slickenslides, microcaceous, sub-angular, moderate sphericity, well sorted, thin quartz veinlet at 4.04m, 2.5mm thick, brown concretion, non-calcareous, trace limonite.
-7.03 to -9.03	META-QUARTZARENITE: FRACTURED, fine grained, light medium grey, minor limonite, sulphides, disseminations, massive bedding, slickensides, obscure laminations at 60 to CA, micromicaceous, fractures, limonite staining, sub-angular, slightly weathered, thin quartz veinlet at 5.03m
-9.03 to -9.9	META-QUARTZARENITE: FRACTURED, medium gr., light olive grey, minor limonite, obscurely laminated at 80 to CA, slickensides, micaceous, sub-rounded, mod. sphericity well sorted, biotite + muscovite, feldspar difficult to determine, muscovite silvery colour, Fracture surfaces covered with yellow-brown mineral and limonite?
-9.9 to -12.2	META-GREYWACKE: fine grained, mottled, medium grey-green, abundant clay, very tight looking, massive bedding, micaceous, sub-angular, poorly sorted.
-12.2 to -13.5	META-QUARTZARENITE: FRACTURED, medium grained, light medium grey, disrupted, open vugs, with calcareous, nodules, sub-angular, 40 cm of core lost in concretion at 12.47-12.87, at 12.45 wispy, light brown carbonate present, concretion is medium orange-brown very porous, numerous qtz-calcite veinlets at all angles
-13.5 to -14.6	META-QUARTZARENITE: medium grained, light greenish grey, minor muscovite, massive bedding, numerous thin qtz veinlets at angles 40-90 to CA, micaceous, subrounded, moderate sphericity well sorted, metallics on fracture at 14.8m, fracture has qtz, limonite, and brown soft mineral as well as possible metals and V6, brown mineral gives surface a spotted appearance.
-14.6 to -16.5	META-QUARTZARENITE: medium grained, light bluish grey, disrupted, laminated, numerous thin qtz veinlets, micaceous, sub-rounded, moderate sphericity moderately sorted, metals present adjacent thin vein at 15.15m, veinlet 3mm thick at 45 degree to CA, abundant silvery muscovite.
-16.5 to -16.6	META-QUARTZARENITE: fine grained, light bluish grey, MODERATE silicification, altered so that grain determination difficult.
-16.6 to -18.4	META-QUARTZARENITE: fine grained, light bluish grey, common muscovite, obscurely laminated at 70 degrees to CA, with thin irregular veinlets of qtz, sub-angular, some fracturing with brown minerals on fracture surfaces.
-18.4 to -19.8	META-QUARTZARENITE: medium grained, light bluish grey, common biotite, muscovite, micaceous, sub-angular, moderate sphericity blotchy appearence, significant clay in matrix.
-19.8 to -20.5	META-QUARTZARENITE: FRACTURED, medium grained, light brown, grey, common chlorite, biotite, open vugs, slightly calcareous, sub-angular, very tight with abundant clay in matrix, limonite stains of fractures, concretion zone?
-20.5 to -21.2	META-QUARTZARENITE: SPOTTED, medium grained, light medium gray, common chlorite, biotite, muscovite, obscurely laminated at 75 degrees to CA, with calcite laminae, sub-rounded, moderately sorted, minor sulphides on rare fractures, possible very small bleb of V6 at 21.5.
-21.8 to -22.0	META-QUARTZARENITE: medium grained, same as previous unit with more mud in matrix.
-22.0 to -24.3	META-QUARTZARENITE: FRACTURED, medium grained, light brown, grey, minor chlorite, blebs, obscurely laminated, MODERATE alteration on fractures, limonite staining, dark brown soft mineral as blebs on fractures, sub-angular, moderately sorted, trace sulphides.
-24.3 to -27.8	META-QUARTZARENITE: with clay wisp matrix, medium grained, medium grey, minor chlorite, biotite, muscovite, massive bedding, rare thin qtz veinlets, few dark spots on core, nothing mineralogically different.
-27.8 to -29.6	META-QUARTZARENITE: FRACTURED, coarse grained, light brown, grey, minor chlorite, biotite, muscovite, laminated interval at 28 to 29.3, laminations at 70 degrees to CA, MILD silicification, along a fracture at 28.8 minor metallics ?, limonite staining, sub-angular, moderate sphericity well sorted, soft brown mineral spots on fractures.
-29.6 to -30.4	META-QUARTZARENITE: medium grained, light medium grey, minor chlorite, biotite, muscovite, massive bedding, few thin qtz veinlets (less than 1 mm), sub-angular, moderately sorted.
-30.4 to -31.0	META-QUARTZARENITE: LIMESTONE, medium grained, light buff grey, minor chlorite, silvery and goldy muscovites, laminated, MODERATE carbonate alteration, with sandy, sub-rounded, poorly sorted, this is either a bed or a alteration vein.
-31.0 to -32.1	META-QUARTZARENITE: medium grained, light medium bluish grey, minor chlorite, muscovite, obscurely laminated, a few qtz veinlets at 70 to CA less than 1 mm, micaceous, sub-angular, well sorted.
-32.1 to -34.1	META-QUARTZARENITE: medium grained, light grey, minor chlorite, muscovite, massive bedding, numerous very thi qtz veinlets, silvery muscovite, a few odd sub-circular dark patches, sub-angular.
-34.1 to -35.0	META-QUARTZARENITE: medium grained, uneven, light medium brown, grey, abundant muscovite, obscurely laminated at top to well lam. at base, laminations vary from 50-70 degrees to CA, unit brownish at base, scattered very thin qtz veinlets @ 20-80 to CA, cross laminated, limonite staining, subrangular
-35.0 to -37.0	META-QUARTZARENITE: fine grained, light buff grey, common biotite, massive bedding, micaceous, sub-angular, silvery muscovite is common a few fractures at 45 to CA with brown stains.
-37.0 to -37.9	META-QUARTZARENITE: fine grained, light buff grey, common chlorite, biotite, muscovite, sub-angular. Interbedded thin slaty hornfels, the hornfels has biotite clots and looks weathered, it greenish buff gray, beds at 50 to CA.
-37.9 to -38.3	META-QUARTZARENITE: fine grained, light buff grey, common biotite, muscovite, SPOTTY carbonate alteration, sub-rounded, moderate sphericity
-38.3 to -39.2	META-QUARTZARENITE: medium grained, light bluish grey, massive bedding, micaceous, microcaceous, Fractures, sub-rounded, mod. sphericity well sorted, chlorite, biotite and silvery muscovite.
-39.2 to -39.6	META-QUARTZARENITE: SPOTTED, medium grained, dark grey, minor sulphides, SPOTTY carbonate alteration, with calcareous, vugs, sub-angular, poorly sorted, spots of lighter tan colour carbonate is more abundant near the base of the unit, metallic? present, Fe rich limonites stained blebs similar to those west of the showing.
-39.6 to -39.8	LIMESTONE: arenaceous, light buff abundant quartz, grains, INTENSE carbonate alteration, sub-angular, 30-60% carbonate with floating quartz grains, minor sulphides and trace of metallics, alteration vein not a concretion.
-39.8 to -40.3	META-QUARTZARENITE: SPOTTED, fine grained, dark grey, common calcite blebs, MODERATE carbonate alteration, sub-rounded, well indurated with calcite matrix, very tight, poorly filled with alteration carbonate.
-40.3 to -41.5	META-QUARTZARENITE: FOLIATED, Strong lineation of core at 45 degrees to CA, marble-like texture, fine grained, light medium gray, common limonite, stain, MILD quartz-carbonate alteration, with calcareous, veins, thin fractures with calcite at 70 degrees to CA, very well indurated, minor sulphides.
-41.5 to 45.8	META-QUARTZARENITE: medium grained, light grey, minor muscovite, massive bedding.
-45.8 to -47.0	META-QUARTZARENITE: FRACTURED, fine grained, light grey, common pyrrhotite, veins, VERY THIN veinlets of calcite with sulphides, with calcite very tight low perm.
-47.0 to -49.1	META-QUARTZARENITE: coarse grained, light buff grey, abundant muscovite, irregular bedding, with minor calcite veinlets sub-angular, massive bedding intervals, trace of sulphides.
-49.1 to -52.8	META-QUARTZARENITE: altered at 49.1-49.2 and 50.4-50.5, carbonate alteration spotted, no solid carbonate, medium grained, medium grey, minor muscovite, rare calcite veinlets, MILD carbonate alteration, calcareous nodules, sub-angular.
-52.8 to -55.1	META-QUARTZARENITE: BULPHIDE-RICH, FRACTURED, medium grained, light brown, grey, common pyrrhotite, disseminations, obscurely bedded, MODERATE carbonate alteration, fractures with calcite and sulphides, calcite fractures, limonite staining, sub-angular, very tight, fractures sub parallel with CA
-55.1 to -56.8	META-QUARTZARENITE: medium grained, medium to light brown, grey, minor sulphides, obscurely bedded tto massive, MILD carbonate alteration, rare limonite staining, sub-angular, well sorted.
-56.8 to -57.0	LIMESTONE: fine grained, arenaceous, light buff rare sulphides, INTENSE carbonate alteration, carbonate 60% quartz grains 40%, quartz or rock fragment grains floating in carbonate matrix.
-57.0 to -57.7	META-QUARTZARENITE: FRACTURED, medium grained, medium grey, common sulphides on fracture // to CA, few nodular replacement zones of carbonate, MILD carbonate alteration, veins, fractures, sub-angular.
-57.7 to -59.3	META-QUARTZARENITE: medium grained, light greenish grey, minor muscovite, massive bedding, a few thin calcite veins, trace of sulphides. sub-angular.
-59.3 to -59.8	META-QUARTZARENITE: FRACTURED, medium grained, medium gray, abundant thin veilets of calcite, some of th thicker veinlets have slate slivers, minor sulphides, rare pyrite, pyrrhotite, marble like texture, MODERATE carbonate alteration, a few zones of spotty carbonate alteration. sub-angular.
-59.8 to -60.0	LIMESTONE: light buff minor pyrite, 40% quartz grains floating in carbonate matrix, alteration zone not a bed?, INTENSE carbonate alteration
-60.0 to -62.2	META-QUARTZARENITE: fine grained, medium grey, minor muscovite, pyrite, massive bedding, calcite whisps, sub-angular, well sorted.
-62.2 to -63.2	SPOTTED HORNFELS: SLATY, very fine grained, medium grey-green, common muscovite, cross laminated, Right way up, with sulphides on parting, bedding 75 degrees to CA, abundant biotite blebs, post cleavage?.
-63.2 to -68.4	META-QUARTZARENITE: FRACTURED, medium grained, medium grey, common biotite, muscovite, massive bedding, MILD carbonate alteration, thin veilets of calcite at various orientations, rare limonite staining. sub-angular.
-68.4 to -69.0	META-GREYWACKE: Fine grained, medium grey, abundant clay in matrix, biotite common, laminated, with shaley, intervals, sub-angular.
-69.0 to -72.3	SPOTTED HORNFELS: SLATY, very fine grained, medium greenish grey, common biotite, blebs, laminated, cross laminated, thinly bedded, slaty cleavage, bedding 70 degrees to CA, arenaceous, intervals, limonite satins and sulphides on fractures.
-72.3 to -92.5	META-QUARTZARENITE: medium grained, light grey, minor sulphides on fractures, fractures rare at 45 degrees to CA, common biotite, muscovite, massive bedding, with limonite staining, sub-angular, moderately sorted, trace of pyrite and other sulphides.
-92.5 to -96.0	META-QUARTZARENITE: FRACTURED, medium grained, a few thin finer grained interbeds, light medium brown, grey, minor biotite, muscovite, obscurely laminated, FRACTURE-CONTROLLED carbonate alteration, with calcareous, whisps, sub-angular, carbonate veinlets up to 1 cm wide, fractures at 45 degrees to CA, pyrite on fractures and limonite stains.
-96.0 to -98.0	SPOTTED HORNFELS: LAMINATED, very fine grained, light buff grey, common biotite, convolute bedding, cross laminated, MILD carbonate alteration, with calcite whisps, trace pyrite on fractures, arenaceous thin interbeds, 75 degrees to CA.
-98.0 to -98.5	META-QUARTZARENITE: fine grained, light grey, interbedded with spotted hornfels, minor biotite, bedding 75 degrees to CA
-98.5 to -107.2	META-QUARTZARENITE: medium grained, medium grey, minor blebs or veinlets of carbonate, massive bedding, MILD carbonate alteration, calcareous, fractures, sub-angular, well sorted, trace of fine sulphides on calcareous fractures.
-107.2 to -108.3	SPOTTED HORNFELS: FOLIATED, very fine grained, light greenish grey, common biotite, blebs, laminated, SPOTTY carbonate alteration, with calcareous, laminae, abund. pyrite on calcite micro-veinlets.
-108.3 to -109.0	SPOTTED HORNFELS: fining up, transitional to quartzarenite.
-109.0 to -109.8	META-QUARTZARENITE: fine grained, medium grey, minor biotite, laminated, SPOTTY carbonate alteration, calcite fractures. sub-angular.
-109.8 to -110.1	SPOTTED HORNFELS: medium grained, light grey, rare pyrite.
-110.1 to -110.8	META-QUARTZARENITE: FRACTURED, fine grained, light grey, minor pyrite, SPOTTY quartz-carbonate alteration, calcareous, fractures, sub-angular, well sorted.
-110.8 to -113.0	SPOTTED HORNFELS: SLATY, medium grained, series of fining up cycles fine sand to silt, light greenish grey, common biotite, blebs, cross laminated, rel. SPOTTY quartz-carbonate alteration, calcite fractures.
-113.0 to -123.5	META-QUARTZARENITE: SLATY, medium grained, medium grey, minor biotite, blebs, cross laminated, fining up, several cross laminated finer grained beds at irregular intervals, bedding 75 degrees to CA., SPOTTY carbonate alteration, calcite filled fractures, sub-angular, well sorted, fractures at 10 degrees to core axis, abundant fine pyrite on the rare calcite veinlets which are on the fractures, carbonate (pale yellowish) as fines diseem.
-123.5 to -123.5	E.O.H.

82 m SOUTH OF THE OCCURRENCE

NOVA SCOTIA DEPARTMENT OF NATURAL RESOURCES

DIAMOND DRILLHOLE LOG FOR NSDNR-**NBR-94-3**

NORTH BEAVERBANK - STEVE'S ROAD OCCURRENCE

DRILLED BY: NSDNR LOGGED BY: R. J. RYAN

Total Depth: 201.3 m Inclined: 55° at 360°

LEGEND

META-QUARTZARENITE:
ARGILLITE:
LIMESTONE:
META-QUARTZARENITE: LIMESTONE:
META-GREYWACKE:
SLATE:
SILTY SLATE:
SPOTTED HORNFELS:

Depth	Description
0.0 to -4.6	META-GREYWACKE: medium grained, medium grey: common limonite, carbonate spotting, broken core section, boulder?
-4.6 to -5.6	consolidated till? brownish-grey, 1 cm angular clasts of greywacke
-5.6 to -8.4	META-QUARTZARENITE: fine-medium grained, light greenish-grey abundant carbonate alteration spots, darker grey down section. Thin argillite? laminations at 6.3m and 6.5m 1-2mm thick. Minor sulphide min, silver color, pyrrhotite, ?
-8.4 to -8.4	META-QUARTZARENITE: medium grained, light buff carbonate nodules, calcite and floating qtz grains
-8.4 to -9.4	META-QUARTZARENITE: fine grained, greenish-grey, obscure laminated, minor sulphides, micaceous
-9.4 to -11.0	META-QUARTZARENITE: fine to medium grained, light greenish-grey, grades into slightly coarser darker green-grey, carbonate spotting at 10.7m, minor sulphides, micaceous
-11.0 to -11.7	META-QUARTZARENITE: fine grained, light greenish-grey, <1mm black stringers, limonite staining along fractures minor sulphides, mod sorting, subangular
-11.7 to -13.2	META-QUARTZARENITE: fine grained, light bluish grey, very carbonate rich, 20cm nodule at 11.8m, limonite staining along fracture 10 degrees to CA, obscure bedding
-13.2 to -14.4	META-QUARTZARENITE: fine to medium grains, light-med grey-green, limonite staing along fracture at 45 degrees to CA, massive bedding
-14.4 to -20.1	META-QUARTZARENITE: fine-medium grained, light-med grey, limonite spots and minor veinlette, biotite clots, carbonate spotting throughout section, minor sulphides, 7cm carbonate nodule at 7, rare calcite veinlets 20cm long, manganese? nodule at 15.6m, convolute lamination at top, fractures 45 to 20 degrees to CA
-20.1 to -20.9	SPOTTED HORNFELS: med grey, abundant micas, laminated, slaty cleavage, limonite staining
-20.9 to -26.3	META-QUARTZARENITE: med grained, med grey, marble like texture, fine calcite veinlette in areas, mod carbonate alteration, limonite staining on fractures 30 degrees to CA, pyrolusite ferns, carbonate rich zone at 24.6 with 5cm calcite vein, spotty carbonate alteration 22.8-22.9m
-26.3 to -27.5	META-QUARTZARENITE: light grey, fine grained, moderate carbonate alteration
-27.5 to -28.2	SPOTTED HORNFELS: coarse grained, light-med grey, lim staining cross laminations, RWU, bedding 60 degrees? to CA
-28.2 to -38.9	META-QUARTZARENITE: med grained, interbedded zone of spotted hornfels repeating over length of section 70:30, greywacke clasts in the quartzarenite, distinct contacts between hornfels and quartzarenite, minor sulphides, bedding 60 degrees to CA, rare lim staining, hornfels lamination
-38.9 to -42.5	META-QUARTZARENITE: interbedded with spotted hornfels 70:30 quartzarenit is fine to medium grained, light-med grey, rare calcite veinletts, trace sulphides, laminated spotted hornfels as 5-10cm zones, light greenish grey, load structure at 42.5, RWU
-42.5 to -43.1	META-QUARTZARENITE: medium grains, light-med grey massive
-43.1 to -43.4	SPOTTED HORNFELS: med grey, laminated
-43.4 to -51.7	META-QUARTZARENITE: med grains, med grey, 5-10cm zones of intense carbonate alteration occurring as <1mc veins (43.7 and 49.8m) or as carbonate patches, more micaceous down section, carbonate layers- peadobedding, rare lim staining
-51.7 to -53.4	META-QUARTZARENITE: fien-med grained, light-medium grey-green, marble texture cut by numerous calcite veinletts, rare calcite spots or nodules, minor sulphides
-53.4 to -54.0	META-QUARTZARENITE: fien grained, greenish-grey, intense fracture controlled carbonate alteration, abundant sulphides min along fractures 65 degress CA, marble texture as above but more pronounced
-54.0 to -54.4	META-QUARTZARENITE: fine grains, med grey, abundnat carbonate bands (appear as bedding) 3-4mm thick, spotted appearance, persasive spotty carbonate alteration
-54.4 to -57.8	META-QUARTZARENITE: fine grains, med grey-green out in places by 2-3mm calcite veins (5Bn) somewhat marble like texture, section of core missing 55.5-56m, minor sulphides along fractures
-57.8 to -58.5	META-QUARTZARENITE: upper section ie greywacke?, abundant calcite blebs or stringers and few veinletts, lower section fine grained metaquartzarenite with calcite bands as in 54-54.4m
-58.5 to -62.5	META-QUARTZARENITE: Fine grains, light-med grey-green, cut by network of fine calcite veinletts, marble texture in places, intense fracture controlled carbonate alt, trace sulphides
-62.5 to -64.5	SPOTTED HORNFELS: laternating light and dark grey lamination 1-5mm thick, well developed slatey cleavage, with sandy bands
-64.5 to -65.2	META-QUARTZARENITE: fine grained, light-med grey, minor carbonate veinletts, fractures 10 degrees to CA
-65.2 to -68.0	META-QUARTZARENITE: med grained, common carbonate alteration but less veinletts than above, minor carbonate blebs < 5cm
-68.0 to -70.5	SPOTTED HORNFELS: med-ore grained going down core, light-med grey-green, py min, well developed slatey cleavage at 50 degrees CA
-70.4 to -71.3	META-QUARTZARENITE: SPOTTED, fine grained, medium grey, common biotite, blebs, obscurely laminated, slaty cleavage, calcareous, veinlets trace of sulphides, almost fine enough to be a spotted hornfels.
-71.3 to -71.5	ARGILLITE: LAMINATED, very Fine grained, medium brown, grey, common pyrite, arsenopyrite, cross laminated, Right way up, with calcareous, whisps, sulphides preferential along the cleavage.
-71.5 to -72.2	SPOTTED HORNFELS: FOLIATED, medium grained, light green, to green grey, common biotite, blebs, laminated, slaty cleavage, cleavage at 30 degrees to CA, bedding 80, calcareous.
-72.2 to -72.6	SPOTTED HORNFELS: SLATY, fine grained, medium greenish grey, minor biotite, blebs, trace sulphides, laminated, MILD carbonate alteration, with calcareous, fractures.
-72.6 to -73.8	META-QUARTZARENITE: SPOTTED, very fine grained, light greenish grey, common garnet, blebs, or clots up to 1 cm in diameter, numerous grains, obscurely laminated, MODERATE carbonate alteration, micaceous.
-73.8 to -74.2	SILTY SLATE: very fine grained, medium grey, minor pyrite, laminated, SPOTTY carbonate alteration, calcareous, laminae, sulphides
-74.2 to -74.6	SPOTTED HORNFELS: coarse grained, rare biotite, garnet, blebs, laminated, cross laminated, slaty cleavage, well indurated, trace sulphides
-74.6 to -76.1	SPOTTED HORNFELS: META-QUARTZARENITE: interbedded, FRACTURED, fine to medium gr., mottled, green, grey-green, common pyrite, marcasite, pyrrhotite, sulphides, PERVASIVE quartz-carbonate alteration, with calcareous nodules, and quartz carbonate veinlets, Pegmatic fold of 76 veinlets, sulphides up to 5% of rocks, brassy chalcopyrite, abundant magnetite and fine garnets, COTICULE ?
-75.7 to -78.5	META-QUARTZARENITE: BULPHIDE-RICH, GARNET, SLATY, fine grained, light medium gray, common sericite, pyrite, marcasite, pyrrhotite, minor chalcopyrite, galena, disseminations, laminated, well developed slaty cleavage, slickensides, MODERATE quartz-carbonate alteration, with calcareous, filled vugs, not quite a coticule, sulphides up to 5% of rock in places.
-78.5 to -78.8	META-QUARTZARENITE: BULPHIDE-RICH, GARNET, SLATY, very fine grained, almost a meta-siltstone + spotted hornfels, medium grey, common chlorite, biotite, garnet, muscovite, minor sericite, magnetite, pyrite, sarcasite, pyrrhotite, laminated, well developed slaty cleavage, with calcareous nodules, zones, MILD quartz-carbonate alteration.
-78.8 to -79.5	SPOTTED HORNFELS: META-QUARTZARENITE: transitional, SPOTTED, very fine grained, light grey, common biotite, garnet, muscovite, sulphides, laminated, MILD quartz-sericite alteration, calcareous, micaceous, well developed slaty cleavage.
-79.5 to -79.9	ARGILLITE: GARNET, SPOTTED, very fine grained, light greenish grey, abundant garnet, sericite, laminated, well developed slaty cleavage, PERVASIVE garnet alteration, common sulphides
-79.9 to -80.8	ARGILLITE: SILTY SLATE: SPOTTED, very fine grained, medium grey, minor garnet, sericite, pyrite, pyrrhotite, cross laminated, Right way up, micaceous, MILD carbonate alteration, sulphides on cleavage planes
-80.8 to -84.1	META-QUARTZARENITE: SPOTTED, medium grained, mottled light grey, and light brown, common carbonate spots or blebs, up to 10% carbonate, convolute bedding, at a few horizons only 5 cm thick, SPOTTY carbonate alteration, with calcareous thin veins, sulphides on fractures, pyrite, sub-angular, moderately sorted, micaceous.
-84.1 to -85.2	META-QUARTZARENITE: fine grained, alternating light medium olive grey, minor pyrite, disseminations, on Fractures, laminated, darker layers are finer grained, MILD carbonate alteration, micaceous, sub-angular, rare garnet clusters?.
-85.2 to -89.2	META-QUARTZARENITE: medium grained, light grey, minor sulphides, disseminations, sulphides on fractures at 30 to CA., massive bedding, micaceous, sub-angular, well sorted, indurated, very hard.
-89.2 to -89.8	SPOTTED HORNFELS: META-QUARTZARENITE: fining up cycle, fine to medium gr., light olive grey, common biotite, sericite, cross laminated at top, veins, MILD carbonate alteration, sub-angular, poorly sorted, rare sulphides on fractures with calcite.
-89.8 to -90.1	ARGILLITE: SPOTTED, medium grey, laminated, micaceous, top of fining up cycle.
-90.1 to -90.3	META-QUART