

Noranda Mines Ltd.

Diamond-Drill Core from 1970 Drilling Programme

Drill Hole 10 Casing 40 feet.

- 96 Biotite feldspar porphyry, hereafter called B.F.P., fractured, some gouge zones, very minor sulphide seen in this section.
- 99 Feldspar porphyry maybe inclusion of volcanic rock which is bleached. Some sulphide noted here. Some chalcopyrite. Specimen NC72-116 at 97 feet.
- 145 B.F.P. Abundant fracturing, very little sulphide in this section. Specimen NC72-117 at 142 feet. Abundant secondary biotite in B.F.P. to this point.
- 152 Hornfelsed volcanic rocks. Chalcopyrite and minor pyrite on fractures at this point.
- 167 Hornblende biotite feldspar porphyry. Hornblendes in this case may be altered to biotite.
- 190 Hornfelsed volcanic rocks. Several sections completely solificied with good grade chalcopyrite mineralization.
- 192 Rhyolite dyke. This may be a flow rock but it appears to be an intrusive contact with porphyry following this section. Specimen NC72-118 at 191 feet.
- 196 B.F.P. Initial 1-foot of this section is feldspar porphyry in which original mafics have been bleached. This may be due to preceeding rhyolite dyke.
- 201 Hornfelsed volcanic rocks with some small dykes of B.F.P. Last foot of this section is fault gouge.

Some good chalcopyrite on fractures in this section.

- 205 Rhyolite dyke. Initial 6" section here contains some chalcopyrite in quartz with tetrahedrite. Some magnetite also noted.
- 211 Hornfelsed volcanic rocks intensely shattered and brecciated.
- 231 Rhyolite. Fine-grained buff colour. Abundant chalcopyrite disseminated in matrix and also in quartz veinlets and on fractures. Last 10 feet of this section is fault gouge.
- 330 Hornfelsed volcanic rocks with numerous one to two-foot zones which are solidified around our quartz veins and which also contain good chalcopyrite finely disseminated throughout. This section also shows numerous 1-foot B.F.P. dykes. Specimen NC72-119 at 246 feet.
- 335 Pink siliceous volcanic.
- 370 Hornfelsed dark volcanic rocks. Minor sulphide mineralization on hairline fractures.
- 397 B.F.P. fresh appearance. Some chalcopyrite mineralization on hairline fractures with quartz.
- 407 Hornfelsed volcanic rocks. This marks end of hole 10.

Drill Hole 12 Casing .23 feet

- 205 Hornfelsed and brecciated intermediate volcanic rock. Pyrite is widely distributed on fractures. Shearing is locally intense.
- 264 B.F.P. Fresh appearance. Numerous fractures parallel to core with coatings of pyrite and some chalcopyrite and perhaps some secondary K-felspar in quartz. Other mineralized fractures are oblique to core. Specimen NC72-120 at 241 feet.

299 B. F. P. is previous but with several dykes of coarser grained B. F. P. which is non-fractured and may in fact be post-mineral. Specimen of this material NC72-121 at 280 feet.

300 Marks end of hole 12.

Drill Hole 13 Casing 36 feet

159 Hornfelsed and brecciated intermediate volcanics. At end of section rock becomes more siliceous and is perhaps rhyolitic. Some pyrite and very minor chalcopyrite on quartz-filled hairline fractures.

169 B. F. P. Leucocratic variety could be possibly late stage of B. F. P. although it does contain some minor chalcopyrite of fractures. In contrast to regular B. F. P. this rock appear to have relatively little secondary biotite. Instead most of the biotite occurs as plates and books.

230 Hornfelsed dark volcanic rock. Specimen NC72-122 at 192 feet. Copper content here is fairly consistent. Occuring as disseminations on quartz-filled hairline fractures which are parallel to core.

263 Hornfelsed volcanic rocks as previous. Some sections resemble a dark solificied B. F. P. Magnetite content is variable throughout this section but in various places appears to be in appreciable quantities. Rock is locally very magnetic.

271 Rhyolite. Abundant pyrite in fractures.

276 Hornfelsed volcanic rocks.

281 Rhyolite solificied.

293 Hornfelsed volcanic rocks. Some molybdenite and chalcopyrite on fractures noted in this section.

- 298 B. F. P. dyke.
305 Hornfelsed volcanic.
306 B. F. P. This marks end of hole 13.

Drill Hole 14 Casing 88 feet

- 165 B. F. P. intensely sheared and brecciated resulting in the rock being more accurately called a feldspar porphyry in which original mafic minerals have been bleached. Rock is completely soft and generally gouged. Some abundant sericite alteration and perhaps some green clay mineral alteration locally of feldspars. Specimen NC72-123 at 157 feet. Very little mineralization noted in this section.
- 266 B. F. P. Generally brecciated with abundant sericite alteration. Such that core has completely disintegrated. Some sections appear fresher. No unbrecciated and no unsheared and show abundant primary and secondary biotite. Specimen NC72-124 at 261 feet.
- 268 Feldspar porphyry. An alteration product of previous B. F. P. Pyrite is widely disseminated throughout this section. Specimen NC72-125 at 266 feet.
- 308 B. F. P. Locally brecciated and sheared with ~~the~~ sericite alteration. Some disseminated chalcopyrite on fractures noted. This marks end of hole 14.

Drill Hole 15 Casing 87 feet

- 112 B. F. P. Appears to be leucocratic type with very little fracturing and little mineralization.
- 123 Late stage intrusive breccia. Fine-grained, abundant hornblende in matrix. Scattered white feldspar phenocrysts. Resembles similar intrusive breccia at Granisle. Specimen NC72-126 at 118 feet.

- 150 B.F.P. as previous. Numerous sheared and brecciated sections.
- 298 Feldspar porphyry, intensely sheared and brecciated. Rock is a uniform creamy, white colour. Some cubic pyrite noted throughout this section. No chalcopryrite noted. This marks end of hole 15.

Drill Hole 17 Casing 165 feet

- 213 Intermediate hornfelsed volcanic rocks, rich in magnetite.
- 223 Feldspar porphyry. Intense sericite alteration.
- 300 Hornfelsed volcanic rocks. Locally cherty. Magnetic. Very little sulphide. This marks end of hole 17.

Drill Hole 18 Casing 84 feet

Top section of hole feldspar porphyry, mafic minerals chloritized and largely bleached out. Some tourmaline noted on fractures. Chalcopryrite, very minor on hairline fractures parallel to core. Specimen NC72-127 at 96 feet.

- 177 Tourmaline in fractures parallel to core at this point. Specimen NC72-128
Bornite and minor chalcopryrite occurring in solificied sections at this point.
Secondary biotite on fractures.
- 208 Marks end of this section.
- 258 Feldspar porphyry. Intense sericite alteration. Bleach creamy, white.
Further along hole, rock becomes fresher, mafics clearly visible. Bornite widely distributed on fractures with quartz. Chalcopryrite also present on flatish fractures. Specimen NC72-129 at 353 feet.
- 378 Marks end of this section.
- 395 Feldspar porphyry. Sheared, sericitized, some solificied sections.

405 B.F.P. Some quartz lenses with bornite. This marks end of hole 18.

Drill Hole 19 Casing 60 feet

185 B.F.P. Locally sheared to feldspar porphyry. Very little sulphide seen in this section.

193 Hornfelsed intermediate volcanic rocks. Chalcopyrite on fractures.

207 B.F.P. Abundant secondary biotite in matrix in addition to primary biotite plates. Chalcopyrite on hairline quartz filled fractures parallel to core. Specimen NC72-130 at 203 feet.

223 Dark intrusive breccia.

310 B.F.P. Fairly fresh except where sheared, Minor chalcopyrite and some bornite on hairline fractures. Feldspar porphyry sheared continuous to bottom of hole 19.

Side 2

Drill Hole 20

Top section of hole is B.F.P. which has been locally sericitized to feldspar porphyry.

182 B.F.P. Minor chalcopyrite mineralization on fractures. Some extensive sections of creamy, white feldspar porphyry.

193 Foliated quartz diorite. Medium grained magnetic. Specimen NC72-131 at 184 feet.

223 B.F.P. Fresh. Very little mineralization.

230 Foliated quartz diorite. Beyond this section B.F.P. minor mineralization. Rock is fresh. Apparently only minor amounts of secondary biotite. Specimen NC72-132 at 311 feet.

368 B.F.P. to end of hole. This marks end of hole 20.

August 13th 2:00 p.m.

Visited Ducanex Red Top property north of Aldus ? Creek and to the west of the road between Topley and Topley Landing. Currently moving to fourth hole on programme detests coincidents to IP and mag. structure. IP suggests a large full? structure of perhaps an amplitude of 2-3000 feet. Core drill hole 1 went through 120 feet of overburden before intersecting graphite. Drill hole 2 went through about the same amount of overburden before intersecting a couple hundred feet of red and green volcanics with abundant epidote alteration. Drill hole 3-70 feet of overburden. The initial 200 feet beyond this were in white crystal limestone. Very similar to the Upper Triassic of ???? materials seen at Hogen Lake and past this point the drill hole intersected graphite again which is right on as far as the interpretation of the IP results.

Drill Hole 4 will be the one that will really test this idea of this whole structure in as much as it will be drilled on the other west limb of the full structure and following this if graphite is intersected as ??????? then move on to other targets in the area which the ??? result on the finding of some small porphyry plug by something.

One interesting thing was that it contrasted with the Summit drilling on the same property a couple of years ago. This was drilled further to the west on a magnetic expansion and this intersected Tertiary basalt. So the ~~actual~~ interpretation of Dave Lowry and Jim Simpson. Either A that it might be an intrusive with sulphides or B that it could be to older rocks is quite valid, the latter that is, is quite valid. The interesting thing is that ~~generally~~ in this area we do have Upper Triassic rocks and in as much as the property is situated in the actual region of the

so-called Skeena Arch, these older rocks are quite well with-well we've been getting just out of the Copper Landing. So this marks the end of the examination of the Ducanex drilling on the Red Top property.