

# DY PILOT HOLE TEST DRILL HOLES MEMO

005083

## INTRODUCTION

The 1989 Dy pilot holes encountered fault problems which precluded completion of the holes. Vertical cross section L15+00 (figure 1) shows that the logged fault appears to correlate well between holes 89DS-01, 89DS-02, and 78X-10. In all three of these holes the fault consisted of mud gouge. In this cross section the fault juxtaposes a hangingwall sequence of metabasites and green hornfelsed phyllites against a footwall sequence of grey to dark grey calcareous phyllites.

Field mapping at 1:2000 scale indicates the metabasite sequence has along-strike continuity to the northwest at least as far as cross section L12+00 (300 m). Continuity to the southeast cannot be determined from the field mapping because of lack of outcrop.

## 1990 TEST DRILL HOLES

Three test drill holes were completed in 1990 to further define the orientation of the fault encountered in the 1989 drill holes. Figure 2 shows the locations of the three holes. Table 1 summarizes the results of this drilling.

Hole 90DY-01 confirmed the presence of a fault in cross section L15+00 at the proper location. The fault continues to separate the hangingwall metabasites from the footwall grey phyllites.

In hole 90DY-02 the contact between the metabasites and the grey phyllites continues to be a zone of disruption. In this case the core does not contain extensive gouge; rather it consists of 5.5 metres of rubble with some core loss. Three point plane solutions to the fault location using this intersection and various other intersections results in the fault striking about 065 and dipping about 50-55 degrees to the north.

The projected depth of this fault in hole 90DY-03 was 128 metres. Two zones of disruption were encountered in this hole. At 125.6 metres the phyllites contained 4 metres of rubble and minor gouge with fracturing being parallel S2. At 136.5 metres a second zone of rubble is 2.1 metres thick. In this second zone the fractures crosscut S2. This latter zone has a fracture orientation more consistent with the suggested fault. Both of the disrupted zones are entirely within grey phyllites; the contact between the metabasites and the grey phyllites is "stratigraphic" and occurs at a depth of 95.7 metres.

## SUMMARY

Three 1990 drill holes in the immediate vicinity of the 1989 Dy pilot holes indicate that the fault encountered in the 1989 holes

has a strike of 065 and a dip of about 50 degrees to the north. In the pilot holes the fault appears to be intensely gouged. In holes 90DY-02 and 90DY-03 the fault is marked by a zone of rubble with less than perfect recovery. The different aspects of the fault may be related to competency contrasts between the metabasite and the grey phyllites and/or the development of splay faults at different elevations. The orientation of the fault is consistent with late extensional faults and fractures noted elsewhere in the Anvil District.

Table 1 Fault Intervals in Selected Drill Holes

DDH	Top (m)	Length (m)	Description
78X-10	138.4	3.0	breccia and gouge
89DS-01	146.6	19.5	mud gouge
89DS-02	128.1	2.4	mud gouge with breccia
90DY-01	118.0	1.0	gouge
90DY-02	89.6	5.5	rubble with some gouge
90DY-03	136.6	2.0	rubble with minor gouge