

Latitude 1576M
 Departure 3000E
 Elevation
 Dip at Collar -47°
 Bearing 148° True
 Total Depth... 208.8m Core Size... BQ
 Remarks Core at Buchans Core Library

Noranda Mining & Exploration Inc.
 DIAMOND DRILL CORE LOG
 Tests Dip Magnetic Corrected
 Depth Bearing Bearing
 Acid tests not successful

Project No.... 108
 Property..... Mary March
 NTS 12A/16
 Date started.. 95/12/08
 Contractor.....Zenith Drilling
 Logged by..... Gerald Squires
 Sheet No..... 1 of 3
 Hole No..... MM-95-1
 Grid Name..... Mary March Gravity
 Completed.....95/12/19

Depth & Lithology	Description	Alteration	Mineralization	Remarks
0-20.1	Overburden			
20.1-23.2	Bedrock not recovered due to grinding by casing bit			
23.2-51.5 Mafic flow (minor hyaloclastite)	Medium green to red-brown where hematized. The unit is basically a massive to pillowed mafic flow with small zones of hyaloclastite. Hematite and epidote occur at pillow margins and at areas of primary brecciation, as well as in late veins. There is frequent shearing in discrete areas at 45° c.a. and local silicification. Mafics are generally aphyric with chlorite and calcite filled amygdulites. Hyaloclastite @ ~ 25.7-26.6 (may be tectonic) 40.2-42.2 Shearing @ 45° - 60° c.a. 25.4-28.0 34.0-38.8 Puggy fault gouge at 38.6-38.7	Pervasive greenschist chlorite and carbonate. Silicification and qtz veining over 50% of unit. Strong (primary?) hematization at 34.0-35.7, 26.8-27.0, 28.3-28.5, 38.8-39.7 Strong epidote in patches (pillow rims)	Trace buckshot pyrite (One 1cm wide vein at 45.8m hosted in black chlorite)	Unit appears pillowed (hem-epidote rims) at 42.2-46.6 (also clusters of amygdulites.) <u>Core Recovery</u> 23.2-25.3 62% (probably due to casing grinding. Unit is competent) 36.737.8 50%, 50.3-51.5 40% There are several other broken core zones but no apparent core loss.
51.5-54.6 Mafic dyke	Light green, 1-3% 1-2mm fsp (?) porphyritic, has < 1mm black chl blebs (after cpx ?). The colour and porphyrite nature of this unit suggests dyke (Outside chance it is base of above flow unit)	Pervasive greenschist chlorite. Local qtz-carb-epidote veining.	Nil	Badly broken core for 1.5m above this unit (Outside Chance this Beccia texture is tectonic)
54.6-56.3 Hematized Hyaloclastite (Mafic)	Dark ochre red. 50-75% of unit in hematite matrix (often glass ?) Remainder is 1-3mm angular green amygdaloidal mafic "scoria" Fragment (i.e. lots of fine amygs). One 5 cm fragment, several 0.5-1cm (all same lithology). Gradational base.	Pervasive Hematization of matrix (chl/carb-alteration of fragment). local qtz and epidote veining.	Nil	
56.3-74.9 Mafic Hyaloclastite	As above, but hematite only locally developed. Light to medium green colour. Fragments make up 90% of unit and are 1-3mm in size with < 5% 0.5-2cm fragments. At 58.2-58.3m a single fragment is seen in incipient brecciation (Autobrecciation) with its margins becoming part of the main unit. This shows the true nature of the unit. Some hints of bedding indicate possible re-working.	Pervasive greenschist chlorite/carbonate, local hematite and epidote	Trace Py Blebs (eg. @ 57.4m)	
74.9-80.5 Bedded mafic "tuff"	Light to medium green ash to fine lapilli (<1mm-2mm zones) mafic "tuff" (reworked). This sandy to silty repetitively graded unit exhibits 1mm to locally 50cm bands with core angles at 80° to core axis. Silty bands are light green, sandier bands medium green. Excellent normal and minor reverse grading, flame and load structures which indicate tops up hole and therefore a 35 to 55° northwest dip for the stratigraphy and stratigraphic tops to the northwest. Sandy bands under microscope consist entirely of angular, cusped, calcite amygdaloidal, "frothy" (ie. lots of amygs) mafic pumice which indicates only minor reworking of an original explosive (lots of gas bubbles) tuff.	Pervasive moderate "greenschist" chlorite and carbonate	Totally undeformed	

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DIAMOND DRILL CORE LOG

Project No.....108
 Sheet No.....2 of 3
 Property.....Mary March
 Hole No.....MM-95-1

Depth & Lithology	Description	Alteration	Mineralization	Remarks
80.5-106.5 pillowed mafic flow	Light to medium green, grey and epidotized selvages frequent, 5 to 30% calcite and quartz amygdaloidal. Some possible 1-3mm feldspar phenocrysts. Minor fine hyaloclastite in unit (hard to tell because of veining).	5-10% epidote/quartz veins. Locally silicified pervasive "greenschist" chlorite and carb.	Trace pyrite and cpy as disseminations and in qtz veins 105.5 1cm qtz veins with 30% cpy.	
106.5-108.2 Sandy mafic Hyaloclastite	As in sandier portions of unit at 74.9-80.5. However, no grading noted. Grains generally 1-3mm where not obscured by alteration. At 108.1m is only silty-sandy bed with 70° c.a. bedding attitude (2cm wide). Top contact obscured by veining but looks ~ 60°c.a (not significant for dip indicator)	[15-20% qtz veins with cpy, last 3m of unit]		
108.2-150.1 Mafic flow	Dark green to grey, locally purplish. less altered than flow above 106.5m. Top 7.5m is very epidotized and silicified and may be more pillowed (this area is frequently light green due to epidote and quartz veining). 5-15% quartz/carb amyg. More massive (less pillowed) below 116m. 1-2cm cusp of interflow (?) chert (grey) at 131.4m. [Note: @ 123.65 to 127.1 is a sandy hyaloclastite bed which I originally missed. Several silty laminae areas at 80°c.a. Top 30cm appear somewhat sheared at 80-90° c.a., base is obscure. Locally very "fresh" looking (siliceous) but qtz filled amyg indicate siliceous nature is secondary.]			
150.1-152.1 QFP dyke (Felsic)	Brownish-yellow, ~ 5-15% 1-4mm quartz and red k-spar phenos in the glassy (silicified) matrix. Top and bottom contacts very sharp at 45° c.a. each. Definite dyke. Also has ~ 5% 2-4mm milky, irregular quartz amygdaloids indicating high level intrusion. Lower chill margin in 1cm wide black chlorite band with apparent pink feldspar phenos. Looks somewhat sheared (chill). Mafic flows above and below are silicified.	Much silicification and brecciation		
152.1-170.2	Same as 108.2-150.1 (Mafic Flow)			
170.2-170.4 Cherty (Jasper) mudstones	Dark grey with 2-3mm jasper bands and fragments. Bottom 10cm is yellow-brown and a bit sericitized, Top contact shows chert fragments in overlying mafic (over 1cm zone) giving the mafic flow an intrusive habit. Here base is becciated and marked by end of (sed?) banding Which is 80-70° c.a.			
170.4-185.0 QFP dyke (As in 150.1 to 152.1)	Upper contact with chert brecciated and altered making actual contact difficult to see. Strong qtz amygdaloidal over most of unit (except for margins). Fragments of chert in parphyry near top contact confirm its intrusive nature (rather than flow). Base is chilled over 5cm as black chlorite-sericite with ~ 20% 1-3mm red K-spar phenos. Lower contact very sharp with underlying chert at 75° c.a. (Parallel to chert layering here) Dyke has apparently used the sediment unit to intrude along.	Strongly silicified and brecciated in siter. Weak local sericite		
185.0-188.9 Red to grey mudstone and chert	Probably same unit as in above previous dyke. No coarse component to sediment which is 65% red banded mudstone (rest is grey-minor chert). Banding is 70° to 80° to c.a. Locally brecciated, unaltered. 186.2-186.5 brecciated QFP dyke (parallels banding in sediment and looks almost like a tuff base of sediment obscured by broken care.	Minor sericite along bands indicate some felsic component.		

Depth & Lithology	Description	Alteration	Mineralization	Remarks
188.9-208.8 Massive Mafic flow (Dyke?)	Dark grey green. Same as in above mafic units below 108.2m. Amygs obvious but generally < 2% except at top 1m where is 5-10% up to 3cm long stretched quartz amygdaloids. Top 30cm of unit is almost non-amygdaloidal, fresh, unbrecciated and may suggest an intrusive habit for this unit, since one would expect pillows, alteration autobreccia, etc if it were a flow top. [Note: Below 108.2m the "mafic", through looking like classic mafics (green, amygo, epidote, pillows rarely) are generally hard, and although thick do not develop diabasic texture. Under scope many fine plagioclase phenos have been seen locally. Definite Qtz phenos not noted, though I looked. May be intrusive in some instances.]			
208.8 EOH.	Note: three acid tests were attempted but because the only "stopper" drillers had was leaky, no satisfactory etched lines were preserved.			