

Sheet No. 1

Project No. _____ Hole No. 3346

Property Buchans - Middle Branch

NTS _____ Grid Name Mine grid

Date started 1986? Completed _____

Contractor _____

Logged by J. Harris - 1996

Depth & Lithology	Description	Alteration	Mineralization
0 - 102'	- Overburden		
102 - 298'	- Mafic to locally intermediate tuffs - Medium to dark green quartz and plagioclase phenos. locally - Fragmental - some thin layers disrupted by deformation - Small fault gouge at 245', small sericitic shear at 243' @ 50° to the core - Locally layered/bedded at about 50° to the core - Moderate foliation - mainly around 50° to the core but often folded - 102 - 114 kinked and at 10 - 40° to core - Steepens downward - fairly consistent below 115' - 139 - 142' - felsic zone along core - maybe dyke contact or alteration - irregular indistinct contacts - also has 2- 3 thin gouge zones at 10 - 15° to the core - 151 - 152.5 - thin fault gouge and breccia zones - Occasional thin gouge zones down to 194 - 193 - 195 - again bleached felsic look, also brecciated - fault - Thin faults - gouge, 204, 205, 210, 274.5, 286 and 287 - 264 - 275 - some pink K-spar phenos., alteration?	Weak to moderate chloritic and locally sericitic alteration. Some local silicification/silica flooding 213.5 - 226.5 - moderate to strong sericitic alteration Lower contact area - sheared - maybe some interbedded Arkose beds	<1% disseminated Py. - local cpy i.e. @ 250' Core split 213.5 - 226.5' up to 10% py. as disseminations and bands Disseminated hematite lower 10'

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DIAMOND DRILL CORE LOG

Sheet No. 2

Depth & Lithology	Description	Alteration	Mineralization
293 - 494'	- Lithic arkose and arkosic conglomerate - Down to 302' - large clasts of maroon rhyolite could be rhyolite dykes - Fault gouge and breccia 306 - 307' - Conglomerate mainly below 307' - rounded and subangular clasts, mainly assorted felsic volcanic, but wide variety - some granitic clasts - Sections up to about 2.5 - 3' of rhyolite, amygdoidal basalt, etc. - likely boulders, 415 - 417' - carbonate infilled mafic breccia agglomerate - boulder - @ 307' - foliated - sheared at about 50° to the core - 426 - ≈ 430' - clasts are well flattened - mainly felsic vol. - layering at ≈ 55° to the core - tuff? - Jasper fragments at 432 and below - Sheared @ 446' - Bedding at ≈ 50° to the core at 452 - 457 - 466 - basaltic agglomerate - breccia - calcite infill and amygdules - Matrix becomes somewhat tuffaceous at 494' - gradational contact		
Buchans River Fm. ↓ 494' - 651'	- Felsic volcanic - breccia to tuff - Dacitic crystal vitric tuff matrix with clasts of pink to grey porphyritic rhyolite - Tuff becomes gradually more prevalent downhole - below 550', abundant Plag. phenos. locally - locally abundant lithic fragments - 581.5 - 582' - carbonate vein breccia at 20° to the core - 587 - 625 - has a few porphyritic rhyolite fragments again, also abundant Plag. phenos. - mostly reddish colour and very rhyolitic looking locally, 625 - 644 - maybe rhyolite - Jasper clasts and alteration locally - or welded tuff - Some narrow calcite veins throughout - 632 - 633 and 635.5 - 637' - fractured to brecciated - carbonate cement - Lower contact sheared at 45 - 50° to the core	499 - 501 - moderately silicified - sericitic and local chloritic alteration of groundmass - hematitized locally - local black chlorite on fractures 625 - 646 - hematite veining and fracture infill	≤ 1% disseminated - hematite and/or magnetite - magnetic locally
651 - 1800' (very much like in hole 1582)	- Agglomerate to breccia (Ski Hill? - mafics look like Ski Hill described elsewhere) - Mainly mafic but has a considerable % felsic clasts and a few which look granitic - Rhyolite clasts are pink to grey with Plag. and locally with quartz phenos. - below 675 are mainly grey and commonly pyritic, may be pyritic siltstone - Mafic clasts are basaltic to andesite with Plag. phenos. locally - also commonly amygdoidal - silica and some calcite - Matrix appears to be mafic tuff - very little matrix - @ 661 2 - 3" fault gouge and breccia - Local calcite veining and infill - @ 702 - thin gouge at 10° to core @ 729 - 731 - fault gouge and carbonate cemented breccia @ 10° to core - Below ≈ 735 and more consistently mafic fragmental - clast boundaries often indistinct - commonly but not always plag. phyric - 744 - 750' - Shattered with carbonate cement/infill - some fault breccia, i.e. 747 - 749	Sericitic alteration of feldspars, some chloritic alteration, local silica flooding between clasts, same as in amygdules Black chlorite on fractures locally	Pyrite generally <1% 655.5 - 656.6 - Pinkish felsic vol. clasts? with about 2 - 3% Py. Other local pyrite blebs, i.e. at 670 - 2 small massive Py "clasts" less than ½" 691 - 692 - felsic clasts 2 - 3% Py.

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Sheet No. 3

Depth & Lithology	Description	Alteration	Mineralization
651 - 1800 (cont'd)	<u>Below 747 - 1800' core not all logged - boxes checked randomly</u> - @ 781' 6" gouge and breccia @ 788' thin gouge - 810 - 818' - brown aphanitic rhyolite also @ 982' - porphyritic (intrusive) - Fault zones are quite common i.e. 1021 - 1036' - fractured/faulted along core carbonate infill - 1169 - 1182' - mainly brecciated and highly fractured - Local chl. filled amygdules - Commonly magnetic - 1275 - 1287' - Carbonate infilled fault (gouge and breccia, etc.) along core - some black chloritic alteration - 1700 - ≈ 1720' - Pink felsic dyke rhyolite (to felsite) - 1772 - 1792' - chilled contacts - rhyolitic dyke - some flow banding - @ 1800 - 3 - 4" shear @ 45 - 50° to the core, some calcite and epidote infill, also some black chl.	unit is remarkably consistent and relatively unaltered 1249 - 1262 - altered and fractured - some black chlorite on fractures also silicification and pink felsic alteration or felsic flows. 1687 - 1700 - black chl. on fractures	- maybe some barite with carbonate breccia infill. @ 1800' - no obvious sulphides HAG?
1800 - 1801.5'	- Mafic vol. amygdoidal with calcite as below		
1801.5 - 1817'	- Mafic dyke fine grained black magnetic, xenoliths of basalt near contacts, both contacts chilled and at low angles to core (10 - 20°)		
1817 - 1833'	- Dark green to black amygdoidal basalt, common calcite amygdules, often quite large - Sandy Lake Fm.?		
1833 - 1850'	- Beige felsic looking rock with chlorite phenos., - Contacts somewhat gradational - hazy - alteration? or felsic flow - appears to be alteration?? - Some sections with weaker alteration are more chloritic - @ 1850' - shear zone at 50 - 55° to the core	Silicified - felsic alteration?	Py. to 1% - some Pb-Zn on fractures with wormy white silicification
1850 - 1889'	- Volcanic? breccia, chloritic matrix with chips of mafic volcanic and silicified material - occasional jasper fragments - tuffaceous matrix below 1853 and gradational picks up larger clasts of amygdoidal basalt	Some silicified clasts - minor black chlorite	@ 1850 - ≈ 1852' - some Pb-Zn "clasts"? amygdules filled with Pb-Zn and some on fractures
1889 - 1899'	Rhyolite - grey-green to pink with chlorite phenos., often very similar to 1833 - 1850' - contacts are sharp and irregular, about not well chilled, dyke?		

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Sheet No. 4

Depth & Lithology	Description	Alteration	Mineralization
1889 - 2144'	- Mafic volcanic - maybe Sandy Lake Fm.? (but also similar to Ski Hill above) - Dark to light green commonly amygdoidal, locally with pale green Plag. phenos. - pillow lava with occasional chilled pillow rims down to ≈ 2038' - quite uniform. - 1908 - 1912' - rhyolite dyke, contacts @ 10 - 20° to the core - 1912 - 1927' - occasional pieces of chilled rhyolite - drilling along contact - 2038 - 2144' - becomes fragmental - mainly clasts of rock similar to 1899 - 2038' - lighter green fragments in a darker green matrix and vice versa - Locally has chlorite filled amygdules and/or white and pink calcite matrix, sometimes granular and almost sedimentary looking - Local pink calcite filled matrix - 2119 - 2121' - bleached and weakly altered to pale brown colour - 2036 - 2038' - grey brown silicified with 2" cemented fault breccia at the base (@ 20° to the core) - 2144' E.O.H. -	Generally fairly fresh - unaltered	

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