QUEENSTON MINING INC

Drill Hole:

AN03-47W

DIAMOND DRILL HOLE RECORD Page: 1 of 40

Property: Northing: Easting: Elevation:	ANOKI 17500.00 7200.00 11000.00	*** Dip Te: Depth Azi.		*** Dip Tes Depth Azi.	sts *** Dip	Date Started: Date Completed:	June 5, 2003 July 22, 2003
Collar Azimuth (Grid) .0	F	•	-	-		
Collar Dip:	-64.0	85.3	-64.0	2066.4	60.0	Drilled by:	Heath and Sherwood
	equals 017 degrees True)	301.8	63.0	2368.2	-56.0	Core Size:	NQ
Hole Length:	3557.0	597.0	-63.0	2663.4	54.0	Material left in ho	le NX CASING
noic bengen.		892.2	62.0	2958.6	-54.0	Core Location:	Upper Canada Site 1
Date Printed:	16 Apr, 2004	1187.4	-62.0	3253.8	-50.0	Logged by:	Dale R. Alexander
pate Himeea.		1482.6	-62.0	3557.0	-49.0		
		1777.8	-61.0			1.	
						Delle R A	exande

AU AU1 AU2 Sample From To Len Geology To From PPB (ft) (ft) (ft) OZ/T OZ/T No. (ft) (ft)

SUMMARY LOG

. 0	62.8	OVERBURDEN
62.8	72.2	FELDSPAR PORPHYRY
72.2	837.0	BASALT GABBRO
837.0	1827.8	ULTRAMAFIC KOMATIITE
1827.8	2008.1	BASALT GABBRO
2008.1	2034.5	ULTRAMAFIC
2034.5	2169.4	CARBONATED ZONE GREEN CARBONATE ZONE
2169.4	3010.9	VOLCANICLASTIC
3010.9	3027.1	FAULT ZONE CARBONATED ULTRAMAFICS
3027.1	3230.6	VOLCANICLASTIC
3230.6	3237.7	ULTRAMAFIC
3237.7	3294.1	VOLCANICLASTIC
3294.1	3333.5	ULTRAMAFIC
3333.5	3557.0	VOLCANICLASTIC



32D04SW2039 2.27871

GAUTHIER

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.000 nil

645.8 649.2

69154

3.4

TR

nil

From (ft)	To (ft)	Geology	Sample No.	From (ft)	To (ft)	Len (ft)	\$ PY	AU OZ/T	AU1 OZ/T	AU2 PPB
. 0	62.8	OVERBURDEN Sand and clay with a few pebbles of mafic volcanic at the bedrock interface to 5 cms in size.								
		Mechanical problems were encountered in the drillhole at 1777.76 feet (542 m) - the rods stuck and broke at 1505.52 feet (459 m). Most of the material was retrieved except for the core barrel et al, such that the drillhole had to be wedged at 1741.68 feet (531 m). This wedged hole is designated as ANO3-47W - assay data for top of system accompanies this log, there is no overlapping of assay sections.								
62.8	72.2	The drillhole collars into a short dyke of feldspar porphyry before entering a mafic volcanic package. The feldspar porphyry is dull grey with weak reddish tones to grey red in colour. It is composed of numerous, close-packed phenocrysts of feldspar with a minor matrix component visible containing amphibole, biotite, chlorite, and, a weak speckling with calcite. Phenocrysts are up to 5 mms in size, averaging 1-2 mms. Isolated quartz blebs to spots to 1.5 cms are also present. The dyke is blocky to broken throughout with highly rubbled core at the overburden interface to 65 feet no fault is inferred, the mud present seems to be drilling fluids. The dyke is essentially unveined and contains trace only fine points of pyrite. Magnetic susceptibilities range from 0.29 to 0.57. The lower contact area is slightly more reddish toned after 70 feet. The lower contact is sharp with a 9 mm calcite vein at 63 degrees.	69131 69132	66.0 69.0		3.0	TR TR	tr nil	.000	14 nil
72.2	837.0	BASALT GABBRO Contact into a mafic volcanic package. The basalt is medium to dark green in colour and fine to medium grained with a fine granular to crudely developed gabbroic texture. The rocks are variably altered and fractured with calcite, chlorite, epidote and a grungy alteration with feldspar +/- epidote, chlorite, calcite and hematite. Adjacent to the feldspar porphyry dyke, the basalt is strongly calcitic and partly amphibolitized over 9 cms. There is local pervasive calcite alteration in the system beyond the contact in areas of stronger fracturing, but most of the alteration is confined to the fractures and their alteration halos. Flows are poorly defined in the system but there are irregularly spaced intervals with finer grained to streaky altered and fractured to weakly brecciated basalt +/- some grungy altered, chloritic zones that look remotely like selvage material. Over the first part of the system, there is very little amphibolitization away from the dyke contact until footwall to a second small dyke that extends from 150.3 to 151.4 - upper contact at 64 degrees, lower contact broken. Magnetic susceptibilities are highly erratic and are best addressed under the sequence breakdown as:.	69133 69134 69135 69136 69137 69138 69139 69140 69141 69142 69143 69144 69145 69147 69148 69149 69150	150.3 152.3 155.0 158.0 160.0 172.0 174.8 177.0 178.7 518.0 521.0 524.0 527.2	78.0 150.3 152.3 155.0 158.0 160.0 163.0 174.8 177.0 178.7 182.0 521.0	2.8 3.0 3.3 2.0 2.7 3.0 2.8 2.2 1.7 3.3 3.0 3.0 3.2 3.2 3.2	TR TR TR TR-1 TR-1 TR-1	.001 .001 .001 nil nil tr nil nil tr tr il nil nil tr .009 .001	.000 .000 .000 .000 .000 .000 .000 .00	24 22 26 nil nil 2 nil nil nil nil 1 3 nil nil 1 53
		72.2 150.3 Basalt Gabbro - as described in the overview, the basalt is medium to dark green in colour with a fine granular to gabbroic texture, and, irregular streaky to fracture controlled alteration	69151 69152 69153	540.0 643.0	540.0 543.0 645.8	3.1 3.0 2.8	TR TR TR	nil nil nil	.000	nil nil nil nil

with chlorite, calcite, epidote, hematite and the grungy

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AU1

AU2

Sample

From

feldspathic alteration. The rock is irregularly fractured with 5 to 10% calcite stringers and is mineralized with up to 1-2% pyrite over a few mms - generally within the more highly altered to fractured sections. Magnetic susceptibilities are erratic from 0.20 to 51.5. The section is cut by a narrow, dull grey green mafic intrusive with a weak reddish cast from 127.1-129.1 at 43/62 degrees. The dyke is flecked with amphibole +/- biotite, and, it contains some amphibolitized fragments to 2 cms in size. The dyke also appears to cut off some pitted to vuggy calcite veining with epidote - magnetic susceptibilities in the dyke range from 0.92 to 1.45. The lower contact with the small feldspar porphyry is sharp at 64 degrees.

Geology

From

(ft)

(ft)

- 150.3 151.4 Feldspar Porphyry contact into a narrow dyke of feldspar porphyry that is hanging wall to the first of the amphibolitic corridors - the lower contact being broken. The dyke is dull grey in colour with weak reddish tones and reddish staining next to fine fractures with calcite. The unit contains numerous, relatively close-packed phenocrysts of feldspar to 5 mms in size in a dull grey, siliceous matrix that is weakly altered with chlorite. The dyke is weakly fractured with locally pitted to vuggy fine calcitic fractures, and, is mineralized with traces of fine pyrite. Magnetic susceptibilities range from 3.21 to
- 151.4 178.6 Amphibolitic fault gouge return to the medium to dark green. granular to finely gabbroic textured basalts with erratic magnetic susceptibilities from 0.48 to 48.4. In this corridor there are three main amphibolitic corridors qued with narrow sections of broken core and gouge to grit at: 151.4-152.5, 10 of gouge to grit from 152.0 to 152.3, and weaker amphibolitization at the base from 152.3-152.5: 158.2-159.4 around broken core with grit over 3 cms at 158.6, and; 174.8-178.6, the largest amphibolitic section with 3 mms gouge at 177.7 at 48 degrees, 177.9-178.2 broken with 4 cms of gouge at 53 degrees, and, 2 mms of gouge at 178.6 at 55 degrees. The amphibolitic sections are black in colour with dark green and brownish streaks and a weak reddish cast. The sections are finely fractured to pervasively altered with calcite and are sparsely mineralized with pyrite. There are also some pitted to vuggy fractures with calcite +/ hematite in both the amphibolitic parts and the greener basalts. Contacts with the amphibolitic sections are sharply gradational. The lower contact is foliated at 57 degrees.
- 178.6 274.4 Basalt continue in basaltic flows that are somewhat finer grained than previous and the gabbroic texture is not as well developed. The rocks vary from medium to dark green and dark grey green in colour and continue to be variably altered with chlorite, epidote, calcite and hematite plus a weaker component of the grungy feldspathic style of alteration. There are erratic

sampre.	r r om	10	Dell	PI	AU	AUI	AUZ
No.	(ft)	(ft)	(ft)	%	OZ/T	OZ/T	PPB
69155	649.2	652.0	2.8	TR	nil	.000	nil
69156	652.0	655.0	3.0	TR	nil	.000	nil
69157	655.0	657.6	2.6	TR	nil	.000	nil
69158	657.6	660.0	2.4	TR 1	nil	.000	nil
69159	660.0	663.0	3.0	TR	nil	.000	nil
69160	663.0	666.4	3.4	TR	nil	.000	nil
69161	666.4	669.5	3.1	TR	nil	.000	nil
69162	669.5	672.5	3.0	TR	nil	.000	nil
69163	672.5	675.6	3.1	TR	nil	.000	nil
69164	675.6	677.4	1.8	TR	nil	.000	nil
69165	677.4	679.1	1.7	ΤŔ	nil	.000	nil
69166	679.1	682.2	3.1	TR	nil	.000	nil
69167	682.2	685.0	2.8	TR	tr	.000	5
69168	685.0	688.0	3.0	TR	nil	.000	nil
69169	706.0	708.8	2.8	TR	nil	.000	nil
69170	708.8	712.0	3.2	TR	nil	.000	nil
69171	712.0	715.3	3.3	TR	nil	.000	nil
69172	715.3	718.0	2.7	TR	nil	.000	nil
69173	747.0	750.0	3.0	TR	nil	.000	nil
69174	750.0	752.4	2.4	TR-1	tr	.000	2
69175	752.4	755.0	2.6	TR	nil	.000	nil
69176	755.0	758.0	3.0	TR	nil	.000	nil
69177	758.0	761.0	3.0	TR	nil	.000	nil
69178	796.0	799.3	3.3	TR	tr	.000	3
69179	799.3	802.7	3.4	TR	tr	.000	2
69180	802.7	806.0	3.3	TR	tr	.000	7
69181	806.0	809.0	3.0	TR-1	tr	.000	5
69182	809.0	811.3	2.3	TR	tr	.000	11
69183	811.3	814.0	2.7	TR	tr	.000	2
69184	814.0	817.0	3.0	TR-1	tr	.000	12
69185	817.0	820.0	3.0	TR	tr	.000	3
69186	820.0	823.0	3.0	NIL	tr	.000	2
69187	823.0	826.0	3.0	TR	tr	.000	2
69188	826.0	829.0	3.0	NIL	tr	.000	2
69189	829.0	832.0	3.0	NIL	tr	.000	3
69190	832.0	835.0	3.0	TR	tr	.000	2
69191	835.0	837.0	2.0	TR-1	tr	.000	3

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

From To (ft)

pitted to vuggy fractures with calcite. Overall, the rocks are weakly fractured with less than 5% calcite +/- hematite stringers, and, are sparsely mineralized with pyrite. Flow features are somewhat better developed in this section but tops are unclear. Magnetic susceptibilities range from 0.30 to 26.5 - most are less than 1.0. This section is also cut by a mafic intrusive from 230.5-235.9 at 27/19 degrees - lower contact somewhat threading the core axis after 234.7 feet. The dyke is dull grey green in colour with a weak reddish cast. It is pervasively calcitic, flecked to speckled with amphibole and is magentic with susceptibilities from 21.1 to 46.9. The lower contact with a feldspar porphyry dyke is a little irregular at 39 degrees - the dyke cutting a brecciated flow top (??).

Geology

- 274.4 278.2 Feldspar Porphyry contact into another dyke of feldspar porphyry. Both contacts of this dyke are a little irregular to ragged at 39/33 degrees the dyke appears to cut a flow margin zone in the basalt. The feldspar porphyry is dull grey in colour with variable pinkish tones. It is finer grained than the earlier dykes with close packed phenocrysts of feldspar to 4 mms in size in a fine grained matrix with a weak chlorite and epidote component. The dyke is irregularly cut by fine reddish stained fractures with calcite +/- hematite and there is a weak fine speckling with calcite. Magnetic susceptibilities are low from 0.08 to 0.14. There is trace only pyrite in the unit.
- 278.2 524.0 Basalt return to basaltic flows. The rocks vary from medium to dark green and grey green in colour and fine gabbroic textures are noted once more in this interval. At the top of the section to roughly 298 feet, the package is dark green in colour with a number of brecciated to ropey and variably foliated sections. Magnetic susceptibilities in this portion are erratic and range from 0.31 to 38.3. The rocks become more uniform in appearance overall after 298 feet. Susceptibilities after 298 are generally more uniform from 0.18 to 8.61, but there are isolated sections with magnetite in the system yielding readings up to 369. The strongest magnetics are related to a 6 cm, flow-top breccia with magnetite streaks to contorted layers from 308.0 to 308.7 at 19 degrees to the core axis and readings from 34.3 to 369 (tops are suggested to be downhole). A second flow top breccia from 355.0-355.5 at 42 degrees has readings from 73.5 to 130 where the magnetite is more patchy to streaky and fracture controlled. Footwall to a 2 mm mud seam and a 4.5 cm calcite vein (both at 61 degrees) at 350.0 feet, the adjacent basalt is partly amphibolitized, pervasively calcitic and also contains patchy magnetite - susceptibilities from 98.8 to 111 up to 350.6 feet. There is also some patchy magnetite at 356.9 feet - reading of 63.7 just below the flow top interval from 355.0 to 355.5, with patchy magnetics as 1.00 to 63.7 from 355.5 to 358.5.
- 278.2 524.0 Basalt (continued). There are several flow margin sections, however, without elevated magnetics for example between 358.5

From To (ft)

Geology

Drill Hole AN03-47W

Sample From To Len PY AU AU1 AU2 No. (ft) (ft) % OZ/T OZ/T PPB

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and 468, fractured to brecciated and ropey flow margins are common in the system but magnetics are consistently low from 0.23 to 0.80. Magnetics rise slightly again from 0.38 to 5.47 after 468, prior to another of the strongly magnetic flow-top breccias with patchy magnetite over 3.5 cms from 471.9-472.1 at 43/39 degrees - readings of 175 to 215. From 472.1 to 517.5, susceptibilities range from 0.18 to 8.61 (most under 0.50) with readings rising again in the lower contact zone after 517.5, from 0.70 to 38.1. The basalt is weakly fractured with calcite +/- quartz at generally shallow angles to the core Mineralization is weak but will reach up to 1-2% disseminated to fracture controlled pyrite over a few mms tending to cue with the fractures, or, some of the flow margin zones. As noted above, the basalt is more erratically magnetic after 517.5 approaching the lower contact. The rock also grades more strongly and pervasively calcitic and chloritic below 520.6 prior to the contact with a foliated zone at 524.0 at 69 degrees.

- 278.2 524.0 Basalt (continued). The system is also cut by a number of mafic intrusives, that are typically fine grained, flecked to speckled with amphibole, weakly to moderately calcitic, and generally more weakly magnetic than the adjacent host. Mafic intrusives include: 282.4-284.8 at 64/58 degrees, susceptibilities (MS) at 0.31 to 0.53; 292.6-294.4 at 44 degrees with moderately foliated contacts over 7 cms and 10 cms respectively, MS 0.41 to 0.84 the adjacent basalt is partly amphibolitized with susceptibilities from 4.10 to 38.3; 340.6-341.1 at 19/26 degrees, MS 0.44 to 0.46, and; 363.7-364.6 at 53/62 degrees, MS 0.33 to 0.38. The lower contact of this basalt section is gradational into more strongly foliated material at 69 degrees.
- 524.0 536.9 Foliated ankeritic calcite contact into a highly foliated to contorted segment that has a moderate to strong reaction to the presence of ankerite between 524.8 and 530.1, hanging wall to a narrow, 7 cm, pinkish red dykelet of feldspar porphyry from 530.1-530.4 at 48/14 degrees. There is a weaker reaction to ankerite from 531.4-533.6 at 24/32 degrees, where the rocks are speckled with ankerite and are streaked to incipient altered in appearance. In the main ankeritic corridor, from 524.8-530.1, the rocks are irregularly veined with about 10% quartz-ankerite stringers in addition to having highly contorted ankeritic streaks and more uniform alteration striped to incipient altered ankeritic sections that are foliated at 25 to 50 degrees to the core axis. The protolith is suggested to be an altered, reddish to brownish basalt but there are numerous streaks to fractures of dark bluish green, soft, ultramafic (??) material in the main zone and, lesser so, at the base of the system from 535.2 to 536.9. The ankeritic segments are weakly streaked to refractured (??) with calcite, and, the enclosing rocks are very strongly calcitic. The upper contact zone, from 524.0 to 524.8 is a dull reddish green, foliated, calcitic basalt - foliation at 60 to 70 degrees. The lower contact zone, from 535.2-536.9, is dull

OZ/T

02/T

(ft.)

Sample

No

From

(ft)

To

(ft)

AU2

Geology

From To (ft)

reddish brown in colour and is streaked to fractured with ultramafic material at 45 to 60 degrees - lower contact at 58 degrees.

- calcite (continued). Magnetic 524.0 536.9 Foliated ankeritic susceptibilities are highly variable across the section from 20.7-28.5 in the upper contact zone; 0.38-26.8 in the main corridor; 32.0 58.2 from 530.4 to 535.2 with disseminated magnetite common, and: 0.70-15.7 in the lower contact zone. Aside from the main ankeritic zone, veining is largely expressed as streaks to alteration-healed fractures. Typical to the incipient alteration style, the rocks are moderately hard, and, are mineralized with up to 1-2% disseminated pyrite over a few cms (no sustained mineralization). There is no distinct structure or gouge noted in the section. The lower contact is foliated at 58 degrees with streaky ultramafic material.
- 536.9 666.4 Basalt pillowed massive contact below the foliated corridor into a sequence of massive to pillowed lavas. The top of the section, to 605.2 feet, is the pillowed portion with erratically distributed chloritic selvages on a scale of a few cms to less than a meter in core length. After 605.2 feet, the rocks are more massive to fractured and brecciated with only a minor amount of material that could be construed as selvage zones. Both the pillowed and the massive flows are fine grained with a granular to very fine gabbroic texture. The rocks vary from medium to dark green in colour - pillow margins are commonly paler in colour, and amygdaloidal next to the dark, chloritic selvage zones that often have disseminated magnetite. In the massive to brecciated flow segment, the breccias are usually paler in colour with accessory epidote +/- grungy feldspathic alteration and scattered amygdules. There is a minor amount of amphibolitization in the pillowed segment but amphibolitization is stronger in the massive flows after 645.8 in two main corridors: from 645.8-649.2 at 24/45 degrees, and 657.6-658.5 at 60/62 degrees. The top amphibolitized section is related to strong fracturing at the top of the section (645.8-646.5 at 24/44 degrees) with a soft, amphibolitized ultramafic component. The lower section contains some accessory calcite fracturing, silicification and orangish staining prior to 3 cms of softer, foliated, amphibolitized ultramafic at its base.
- 536.9 666.4 Basalt pillowed massive (continued). Beneath the lower amphibolitized zone, the basalt is foliated, siliceous, strongly calcitic, and pinkish to orangish stained to 658.8 at 62/76 degrees it is hanging wall to a dyke of feldspar porphyry that threads the core axis (or contains coarse fragments to inclusions of basalt) to 660.0 at 76/66 degrees. The irregular dyke is followed by a coarsely granular, calcitic, soft amphibolitized ultramafic from 660.0-660.8 at 66/38 degrees. From this last amphibolitized ultramafic, the rock is a dark green, fine to medium, grained gabbroic textured basalt of the

To Geology

From

(ft)

(ft.)

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

hornblende spotted type down to the lower contact with another dyke of feldspar porphyry at 666.4 at 19 degrees.

536.9 666.4 Basalt pillowed massive (continued). At the upper contact of the system, the pillowed basalt is pinkish toned and pervasively calcitic to 538.9 feet. The core is also blocky to broken from 538.0 to 538.9 due to a pitted to vuggy calcite fracture nearly along the core axis. There is also a narrow shear to foliated section in the pillow lave at 565.0 feet - 7 cms at 39 degrees, with a trace of reddish hematitic mud. Just inside the section of massive flows, there is an 8 mm to 3 cm calcite vein breccia with coarse needles of hematite at 19 degrees to the core axis from 605.4-606.2. Magnetic susceptibilities are variable. In the pillowed corridor, selvage zones are invariably more magnetic than the pillow centers with susceptibilities ranging from 0.62 to 110. In the massive flows, readings range from 0.82 to 15.0 (from 605.2-645.8). The lower contact zone is more magnetic again with susceptibilities from 1.00 to 56.8 in the basalts and amphibolitized basalt, 1.61 to 6.45 in the feldspar porphyry, and. 0.28 to 0.50 in the coarsely granular, more definite ultramafic from 660.0-660.8. Overall, the rocks are weakly fractured with 5-10% calcite +/- quartz stringers at variable angles to the core axis. Pyrite minweralization is weak but will reach 1-2% disseminated to fracture controlled material in some of the selvage zones and around a few of the fractures. The lower contact is clean and sharp at 19 degrees.

666.4 682.2 Feldspar Porphyry - contact into a dyke, or series of dykes, of feldspar porphyry at very shallow angles to the core axis cutting basalt. Dykes are found at 666.4-675.6 at 19/7 degrees; 676.6-677.4 at 45/52 degrees; 678.0-678.5 running along but not entirely cutting across the core axis, and; 679.1-682.2 both contacts irregular at 38/39 degrees. The dykes vary from grey to grey beige and grey red in colour with variable red to orangish staining around fine open fractures with calcite +/- chlorite. dykes are hard and siliceous and are peppered with phenocrysts of feldspar to a cm in size (most under 3 mms) along with much more scattered blebs to patches of greyish quartz to a cm in size. The phenocrysts are relatively close packed such that there is only a minor amount of chlorite, epidote, biotite and amphibole noted in the siliceous matrix. Aside from the fine fractures with staining, the dykes are essentially unveined, and, are very sparsely mineralized with trace only fine points of pyrite. Magnetic susceptibilities are low from 0.03 to 0.62. The basaltic host is fine grained and siliceous between the first two dykes (675.6-676.6). It is dull green in colour with beige toned patches. It is irregularly fractured calcite with some pinkish to red staining susceptibilities of 0.02 to 0.08, trace only fine pyrite. The section from 677.4-679.1 is a brecciated basalt with a possible dark green mafic intrusive (speckled with acicular amphibole) from 677.4-677.8 at 52/59 degrees.

Geology

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

- 666.4 682.2 Feldspar Porphyry (continued). The age relationship between the mafic intrusive and the feldspar porphyry is unclear. Magnetic susceptibilities in the mafic intrusive vary from 0.41 to 1.12 2.12 to 5.98 in the brecciated basalt. Trace only pyrite. The lowest feldspar porphyry dyke is the more greyer toned of the sequence. The lower contact is at 39 degrees.
- return to basaltic flows, parts of which appear to be 682.2 752.4 Basalt nillowed but there is no sustained occurrence of the selvage style of contact feature. The rocks are medium to dark green in colour and have a finely granular to crudely developed gabbroic Flow margins are fractured to brecciated and/or foliated with two instances of siliceous to cherty tops from 712.0 to 715.3 at 24/14 degrees - crude layering at 35 to 40 degrees, and, just before the lower contact zone from 750.9 to 751.1 at 38 degrees. The lower contact zone is a brecciated to ropey flow to tuffaceous basalt from 751.1 to 752.4 - lower contact irregular averaging 43 degrees with much more weakly magnetic basalt. The two siliceous to cherty parts are partly bleached to orangish stained. The first siliceous to cherty segment appears to be cut off by a mafic intrusive from 715.3-721.4 at 14/17 degrees. There is a second mafic intrusive earlier in the system from 697.9-708.8 at 12/17 degrees - this dyke appears to be threading the core axis along its length but precise contacts are ill defined due to the blocky nature to the core (in both dykes). The mafic intrusives are dull to dark green to reddish green in colour. They are granular textured, flecked with amphibole and moderate to strongly calcitic susceptibilities vary from 0.20 to 2.56 in the dykes.
- Basalt (continued). Magnetic susceptibilities continue to be erratic in the mafic flows ranging from 0.11 to 54.2. The flows are weakly magnetic at the outset (to 692.6), with readings from 0.27 to 1.76; the central zone varies from 0.11 to 51.2, with a range of 0.11 to 2.39 in the siliceous to cherty parts; the lower contact ropey flow to tuffaceous zone ranges from 0.35 to 0.55. In addition to the siliceous flow margins, there is a foliated, calcitic and amphibolitized flow margin section from 730.3-731.8 at 52/51 degrees, foliated to streaked at 35 to 50 degrees, susceptibilities from 4.12 to 54.2. Overall, the basalt is moderately fractured with 5 to 15% calcite streaks and stringers at variable angles to the core axis with pervasive calcite common in the system. Pyrite mineralization is generally weak. The lower contact is irregular, averaging 43 degrees.
- 752.4 773.8 Basalt silicified contact into a short interval of thin flows with siliceous to cherty tops. The flows in this section are dull grey to grey green and creamy coloured the paler parts generally reflecting the siliceous tops to the flows. The flows are on a scale of a few cms to 1.5 meters in size average is 30 to 50 cms at 35 to 55 degrees to the core axis. The rocks vary from hard to very hard in the more siliceous parts. The

To

(ft)

From

(ft)

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

basalt is weakly fractured to streaked with calcite and is very weakly to nonmagnetic with susceptibilities from 0.08 to 0.34. There is no true chert in the section. The rocks are very sparsely mineralized with trace only pyrite accompanying some of the fine calcite stringers. The basalt is fine grained to finely granular textured. The lower contact with more chloritic rocks is sharp at 61 degrees.

- 773.8 811.3 Basalt Gabbro contact into a much more chloritic section of basalt. The basalt is fine to medium grained with a well developed granular to gabbroic texture that is of the hornblende spotted variety. It is medium green in colour, weakly fractured with calcite, and, sparsely mineralized with pyrite. The core is locally mottled in appearance from the strong chlorite alteration. Flow features are relatively poorly defined until the lower contact zone - the basalt is increasingly foliated and calcitic with streaks to lozenges and discontinuous stringers of pitted to yuggy calcite from 807.0 to 811.3, capped by a 6.5 cm, very fine grained siliceous section at the base at 50/47 degrees. The foliated section is foliated at 35 to 60 degrees to the core axis. The top of this overall zone is weakly magnetic with susceptibilities from 0.15 to 0.57. A change to magnetic rocks appears to occur after a dyke of feldspar porphyry from 799.3-802.7 - contacts irregular at 58/60 degrees (upper contact varies from 0 to 58 degrees from 799.1 to 799.7). Susceptibilities in the dyke range from 0.10 to 0.31; in the basalt beneath the dyke readings vary from 2.93 to 80.6 strongest in the foliated corridor from 23.0 to 80.6. The feldspar porphyry is typically reddish grey in colour with close packed phenocrysts of feldspar to 4 mms, isolated spots of guartz to 1 cm, and, traces of amphibole, chlorite and epidote +/- biotite noted in the matrix. The lower contact of the sequence is sharp at 47 degrees.
- 811.3 837.0 Contact Zone Basalt Basaltic Komatiite the contact zone package of the basalt sequence is dark in colour and much richer in ferromagnesian minerals than the vast majority of the basalt sequence. The rocks are dark green in colour with a weak bluish cast. moderate to strongly chloritic, and, are softer than the normal basalt but harder than the ultramafic rocks that follow. The section appears to be transitional between the basalts and ultramafics. There is no megascopically visible feldspar in this corridor. The matrix component is finely felted with flecks to spots of hornblende. Magnetic susceptibilities are low from 0.22 to 2.78 up to the lower contact zone from 835.6-837.0 where readings are 1.35 to 33.0. The lower contact zone is siliceous and much harder than the adjacent rocks - it is also greyer in colour with orange staining and partial amphibolitization. The initial part of the lower contact zone is cut by a narrow mafic intrusive from 835.6-836.0 at 49/38 degrees - susceptibilities 16.0 to 23.4. A second mafic intrusive is found at

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From	To	Geology	Sample	From	To	Len	PY	AU	AUl	AU2
(ft)	(ft)		No.	(ft)	(ft)	(ft)	%	OZ/T	OZ/T	PPB

832.7 833.7 at 37/41 degrees with much lower susceptibilities of 0.67 to 0.72 - the only difference is that the lower dyke is pervasively calcitic. The basaltic komatiite is more reactive to the presence of ankerite in the top of the section to roughly 817, although the fracturing in the system continues to be calcitic. Pyrite is present in trace amounts only. The lower contact is sharp at 43 degrees.

837.0 1827.8 ULTRAMAFIC KOMATIITE

Contact into a package of ultramafic rocks. The package is complex but is dominated by blue grey to blue black and dark bluish green flows with locally well developed flow breccias and isolated sightings of spinifex textures. The rocks are normally soft and soapy, and, are moderate to strongly magnetic with susceptibilities above 20 common in the more massive parts of the system. The rocks are also variably fractured with calcite +/-magnesite and are variably amphibolitized. A foliation at shallow angles (less than 40 degrees) is common. The ultramafics are normally sparsely to unmineralized. The sequence breakdown includes:

- 837.0 864.1 Ultramafic Komatiite the contact unit of the ultramafic package is characteristic of the main part of the sequence. The rocks are blue grey to blue black and dark bluish green in colour and are fine grained with a granular to mottled texture. They are weakly fractured with 5-10% calcite +/- magnesite stringers and are sparsely mineralized with trace only disseminated pyrite. Magnetic susceptibilities range from 7.88 to 78.6, with most greater than 30. The upper contact is greener in colour and partly chloritic over 9 cms at 43/55 degrees. There is a bit of granulated core with a trace of mud in this section at 860.6 1 cm at 72 degrees. Flow breccias are not well developed in this section but there is a trace of spinifex at 852 feet. The lower contact is sharp but broken at 25 degrees.
- 864.1 866.6 Mafic Intrusive contact into a short dyke of mafic intrusive. It is harder than the adjacent ultramafic but with softer, amphibolitized contact zones over 2 cms and 5 cms respectively at 25/31 degrees. The dark is dark grey to brownish and black in colour with a fine granular texture and a speckling with amphibole in addition to being moderately amphibolitized and pervasively calcitic throughout. Magnetic susceptibilities range from 1.77 to 6.94. The mafic intrusive is moderately fractured with about 10% irregular calcite fractures and is mineralized with trace to 1% disseminated pyrite. The lower contact is sharp and amphibolitized at 31 degrees.
- 866.6 897.7 Foliated contact into a variably foliated and amphibolitized segment of the ultramafics. The rocks vary from blue black to black and brownish in colour with less of the dark blue green rocks. The rocks are moderate to strongly foliated and contorted throughout at 0 to 50 degrees to the core axis the foliation

69192	837.0	840.0	3.0	TR	tr	.000	2
69193	840.0	843.0	3.0	TR	tr	.000	2
69194	892.0	895.0	3.0	TR	tr	.000	3
69195	895.0	897.7	2.7	TR-1	nil	.000	nil
69196	897.7	899.5	1.8	1-2	tr	.000	7
69197	899.5	902.0	2.5	2 - 3	tr	.000	3
69198	902.0	904.2	2.2	2-3	tr	.000	9
69199	904.2	907.0	2.8	TR-1	tr	.000	4
69200	907.0	910.0	3.0	TR-1	tr	.000	3
69201	910.0	913.0	3.0	TR-1	tr	.000	3
69202	913.0	915.0	2.0	1-3	tr	.000	12
69203	915.0	918.0	3.0	TR	tr	.000	2
69204	918.0	921.3	3.3	TR	tr	.000	2
69205	921.3	923.5	2.2	2 - 4	tr	.000	10
69206	923.5	926.1	2.6	2 - 5	tr	.000	10
69207	926.1	929.0	2.9	1-2	tr	.000	2
69208	929.0	932.0	3.0	TR	nil	.000	nil
69209	932.0	935.0	3.0	TR	nil	.000	nil
69210	1323.0	1326.0	3.0	TR	tr	.000	3
69211	1326.0	1329.2	3.2	TR	tr	.000	3
69212	1329.2	1332.0	2.8	1 - 2	tr	.000	4
69213	1332.0	1335.0	3.0	TR-1	tr	.000	3
69214	1352.0	1355.0	3.0	TR	nil	.000	nil
69215	1355.0	1358.0	3.0	1-2	tr	.000	2
69216	1358.0	1361.0	3.0	1 - 2	.001	.000	26
69217	1361.0	1363.7	2.7	TR-1	nil	.000	nil
69218	1363.7	1367.0	3.3	TR	nil	.000	nil
69219	1367.0	1370.0	3.0	NIL	tr	.000	2
69220	1569.0	1572.0	3.0	NIL	tr	.000	2
69221	1572.0	1575.2	3.2	TR	tr	.000	2
69222	1680.0	1683.0	3.0	NIL	.005	.000	172
69223	1683.0	1685.4	2.4	NIL	.001	.000	22
69224	1685.4	1688.0	2.6	TR	tr	.000	17
69225	1688.0	1691.0	3.0	TR	tr	.000	9
69226	1691.0	1693.0	2.0	TR	nil	.000	nil
69227	1693.0	1695.2	2.2	TR	nil	.000	nil
69228	1695.2	1698.0	2.8	TR	tr	.000	17
69229	1698.0	1700.5	2.5	TR	nil	.000	nil
69230	1700.5	1702.5	2.0	TR	tr	.000	14
69231	1702.5	1705.0	2.5	TR	nil	.000	níl
69232	1705.0	1707.2	2.2	TR	nil	.000	nil

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appears most related to a 1.3 cm gouge section at 880.6 feet at 37 degrees, with granulated to sheared rocks to 880.3 above the zone, and, blocky to broken and strongly amphibolitized core in the footwall to 882.3 feet. There is a second, sheared to granulated section at 887.2 feet - 1 cm at 52 degrees, but with minimal effects in the sdjacent rocks. The ultramafic is streaked to foliated, fractured and veined with 10-20% calcite at normally very shallow angles to the core axis. The core is sparsely mineralized with up to trace to 1% disseminated cubic pyrite and pyrite aggregates. All of the rocks are soft and soapy except for a narrow, brownish, calcitic section over 8.6 cms from 886.6-886.9 at 42/39 degrees that may be a relict mafic intrusive. The lower contact is sharp and foliated at 34 degrees into harder, brownish altered rocks.

Geology

From (ft)

(ft)

897.7 929.0 Amphibolitic Ultramafic Komatiite Feldspar Porphyry - contact into an interesting corridor of ultramafic rocks with some dykes feldspar porphyry and amphibolitic sections that may represent relict basalts. There are two, clear dykes of feldspar porphyry with very irregular contacts from 913.6-914.6 at 56/52 degrees, and, 928.6.929.0 at 49/45 degrees. These two dykes are dull grey in colour with pinkish to beige tones and well developed feldspar phenocrysts to 4 mms in size. There is also a dull grey, siliceous corridor with weak pinkish tones around fracturing and a couple of patches of amphibolitized ultramafic from 899.5-904.2 at 60/49 degrees; a highly fractured siliceous section with irregular contacts from 898.2 to 898.7 at 34/44 degrees, and; a highly fractured siliceous patch just cutting the core axis from 923.5-924.8, that may represent relict feldspar porphyry dykes although the more altered members have much higher magnetic susceptibilities from 15.5 to 39.7, versus 0.32 to 1.62 in the porphyritic members. In addition to the feldspar porphyry dykes and potential dykes, the core is harder, variably amphibolitized, and striped with calcite streaks and stringers to 3 cms in size at 35 to 45 degrees to the core axis between 921.3 and 928.0 at 41/29 degrees. The protolith in this corridor is more basaltic in appearance, and, there is a unit of banded chert in this section from 925.4-926.1 at 44/31 degrees.

897.7 929.0 Amphibolitic Ultramafic Komatiite Feldspar Porphyry (continued).

Two further corridors that look more like a basaltic protolith, are strongly calcitic, amphibolitized, and duller green in colour are found at 907.5-909.0 at 49/21 degrees, and, 918.5-919.2 at 37/39 degrees. Magnetic susceptibilities tend to be the strongest of the system in the basalts but are erratic from 1.83 to 88.5 - most over 20, chert up to 16.4. Also cutting this system is one of the dull brownish to black, calcitic sections that may be a relict mafic intrusive from 911.4-913.0 with undulating contacts at 14/10 degrees - susceptibilities of 15.5 to 16.2. The balance of the rocks in this system, and, the dominant rock type is ultramafic. It is black to blue black and dark bluish green in colour with local more brownish

Sample	From	To	Len	PY	AU	AU1	AU2	
No.	(ft)	(ft)	(ft)	ક	OZ/T	OZ/T	PPB	
69233	1707.2	1710.0	2.8	TR	nil	.000	nil	
69234	1710.0	1713.0	3.0	TR	nil	.000	nil	
69235	1713.0	1715.0	2.0	TR	.001	.000	27	
69236	1715.0	1718.0	3.0	TR	nil	.000	nil	
69237	1718.0	1721.0	3.0	TR	nil	.000	nil	
69238	1721.0	1724.0	3.0	$TR \cdot 1$	nil	.000	nil	
69239	1724.0	1727.0	3.0	TR	nil	.000	nil	
69240	1746.0	1748.5	2.5	TR	tr	.000	2	
69241	1748.5	1751.0	2.5	TR	nil	.000	nil	
69242	1751.0	1754.1	3.1	TR	nil	.000	nil	
69243	1754.1	1757.0	2.9	NIL	nil	.000	nil	
69244	1813.0	1815.8	2.8	NIL	nil	.000	nil	
69245	1815.8	1819.0	3.2	1-2	nil	.000	nil	
69246	1819.0	1822.0	3.0	TR	nil	.000	nil	
69247	1822.0	1825.0	3.0	TR	nil	.000	nil	
69248	1825.0	1827.8	2.8	TR-1	tr	.000	3	

From

(ft)

To (ft) Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

amphibolitization around the dyke contacts. The ultramafic is soft and highly streaked to foliated with calcite at 20 to 45 degrees. Magnetic susceptibilities range from 1.34 to 30.7. The ultramafic is sparsely mineralized with up to trace to 1% disseminated pyrite - the basaltic section with chert contains up to 3-5% disseminated to streaky and fracture controlled pyrite, and, the porphyries host up to 2-3% disseminated pyrite with a rare splash of chalcopyrite. The altered feldspar porphyry also contains some shallow angle fractures with gypsum. The lower contact of this system is along a feldspar porphyry dyke at 45 degrees - contact irregular and partlt absorbed.

929.0 1329.2 Ultramafic Komatiite - return to more uniform dark bluish green to black and blue black ultramafic flows with well developed flow breccia sections. The first spinifex is noted in the system at 987.4 with some stunning examples below that point (to 1033). Where there is a sufficient contrast between the flows, tops appear to be downhole - flows have brecciated margins with or without spinifex textured tops. The rock is fine grained with a variable massive to granular and mottled texture. The ultramafic is more weakly fractured with only 5-10% irregular calcite +/- magnesite stringers in this sector (magnesite is common) - pervasive alteration with calcite is minimal. The rocks are sparsely mineralized with traces of cubic pyrite. Magnetic susceptibilities are elevated again from 18.9 to 73.2. Near the top of the section, there is a narrow, brownish, strongly amphibolitic, calcitic mafic intrusive from 959.4 to 960.5 at 42/44 degrees susceptibilities from 1.15 to 3.07. The unit also contains a trace of gouge at 1029.8 - 1 cm broken at 30-40 degrees. From 1155.5-1161.6 there are three thin flows with brecciated margins at 15 to 40 degrees to the core axis, and, weaker magnetic susceptibilities from 1.05 to 18.7 tops appear to be downhole. A second, more weakly magnetic, zone is associated with a more brownish altered and spinifex textured flow top from 1249.1-1253.1 at 8/21 degrees with susceptibilities from 9.68 to 25.7 (tops downhole).

929.0 1329.2 Ultramafic Komatiite (continued). Magnetic susceptibilities are strong again below this section from 18.9 to 53.6 up to the next brownish altered flow top from 1291.4-1294.8 at 40/22 degrees. This flow top section has a brownish altered, calcite speckled, segment at the base, from 1293.0 to 1294.8 at 29/22 degrees with susceptibilities of 0.33 to 0.90 (susceptibilities in the balance of this section from 0.75 to 14.8). The calcite speckled section is strongly amphibolitic and resembles some of the relict mafic intrusives although this corridor remains very soft. Susceptibilities are more erratic below 1294.8 with readings from 0.40 to 62.7. The rocks are greener in colour, to dark green and black, soft ultramafic from 1314.4 to the lower contact at 1329.2 - susceptibilities in this lower contact corridor range from 0.40 to 9.16. Contacts of the greener

Geology

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

corridor are at 49/45 degrees. There is one further, highly fractured to weakly granulated section in the ultramafics from 1254.0-1255.9 - no mud, but some very soft granulated parts at 35 to 50 degrees to the core axis. The lower contact of the ultramafic section is irregular, averaging 45 degrees to the core axis.

1329.2 1363.7 Mafic Intrusive Basalt - contact into a section that could be either a mafic intrusive or a section of basalt (mafic intrusive appears the preferred designation). The unit is dull dark grey to dark grey green in colour with a granular texture and very scattered amphibolitic spots to a cm in size. It is fractured with about 10% irregular calcite stringers and mineralized with trace to 1-2% disseminated cubic pyrite. The unit is moderately hard. Its relatively uniform texture and mineralization is suggestive of a mafic intrusive, combined with partial amphibolitization of the adjacent, and internal, ultramafic rocks. Internally, there are sections of ultramafic from 1355.0-1356.1 at 35/60 degrees, 1361.9-1362.5 at 31/49 degrees, and, at 1363.5 - 4 cms at 49/44 degrees. Below the appearance of the first ultramafic, the mafic intrusive is more chloritic, partly and mottled in texture. Magnetic amphibolitized susceptibilities range from 5.88 to 23.2 in the main dyke, 0.55 to 19.5 in the more mottled lower contact area, and, 0.33 to 3.13 in the ultramafics. The lower contact of this section is sharp at 53 degrees with strong brownish alteration and amphibolitization over 5 cms in the adjacent ultramafic.

1363.7 1434.5 Ultramafic Ultramafic Komatiite - return to ultramafic rocks. The top of this section is dark green to bluish green and black in colour with variable brownish alteration down to 1367.5 (contact at 71 degrees) before more continuous blue black ultramafic is reached. The upper contact is also more weakly magnetic with susceptibilities from 1.06 to 22.0, versus the much stronger readings in the blue black ultramafic from 14.3 to 62.0. One further, greenish to black brecciated potential flow top zone with weaker magnetics and strong amphibolitization is found between 1377.0 and 1380.1 from 1.32 to 3.15. This section is susceptibilities accompanied by blocky to broken core with gouge over 30 cms at the upper contact (1 gouge at 73 degrees ??), and, 19 cms at the lower contact. Broken to granulated core +/- gouge is also found in the top of the system at 1381.0-1381.9 ending on 6 mms of gouge at 9 degrees, and, 1386.8 to 1387.3, granulated, orientation unclear. In this corridor, flow features are not well developed - most of the rocks are fine grained to massive with a finely granular to mottled texture. The core is weakly fractured with 5-10% calcite +/- magnesite stringers, and, is very sparsely to unmineralized. Magnetic susceptibilities weaken once more over the basal 30 cms, approaching the

Geology

Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

contact with a mafic intrusive - readings from 3.06 to 8.24. The lower contact is sharp and amphibolitized over 2 cms at 64 degrees.

- 1434.5 1437.8 Mafic Intrusive contact into a short dyke of mafic intrusive that appears to mark a change in the ultramafics to more chloritic and weakly magnetic rocks. The mafic intrusive is dark grey to brownish in colour and has a fine granular texture. It is weakly speckled to crudely fractured with amphibole, and, contains some isolated amphibolitic spots to fragments to a cm in size. The dyke is weakly fractured with calcite and is mineralized with trace only disseminated to fracture controlled cubic pyrite. Magnetic susceptibilities 1.37 to 3.36. The contacts are relatively sharp and amphibolitized at 64/72 degrees.
- Komatiite return to ultramafic rocks. As 1437.8 1685.4 Ultramafic mentioned above, the the rocks are more chloritic and weakly magnetic footwall to the mafic intrusive with susceptibilities from 0.17 to 19.2 - most are under 1.0, with most under 0.50 after 1462 feet. The ultramafic is dark green to bluish green and blue black in colour and is fine grained to massive with a finely granular to mottled texture. While there are local weakly foliated to crudely brecciated sections at 50 to 60 degrees to the core axis that are suggestive of flow margins, flows are very poorly defined with the well developed flow breccias and spinifex textures lacking. The core is variably fractured with calcite +/- magnesite stringers at variable angles to the core axis - normally less than 10% but with corridors of 25-35% irregular fractures. The rocks continue to be very sparsely mineralized with disseminated cubic pyrite and pyrite aggregates. There are a few narrow mafic intrusives in the system, the first few are brownish altered as: 1485.7 -6 cms at 45 degrees; 1487.8 - 5.7 cms at 47 degrees, and; 1495.7 - 4.3 cms at 60 degrees, with a more granular textured, larger dyke from 1603.7-1604.9 at 39/48 degrees, and, a very dull grey to brownish dyke with 1-2% grained, disseminated to fracture controlled cubic pyrite from 1649.2-1652.0 at 33/20 degrees. Susceptibilities in the mafic intrusives are little different than the host ranging from 0.07 to 0.56.
- 1437.8 1685.4 Ultramafic Komatiite (continued). While the magnetic susceptibilities are relatively consistent and low after 1462, there are two corridors with more blue black ultramafic and elevated susceptibilities in the lower part of the section from 1614.9-1623.5 at 40/38 degrees with susceptibilities from 1.47 to 13.5, and, 1670.5-1674.6 at 38/51 degrees with readings of 1.02 to 19.2. The lower contact of the system is foliated and partly serpentinized at 56 degrees.
- 1685.4 1715.0 Basalt Basaltic Komatiite contact into a short basaltic

No.

Geology

TO From (ft) (ft)

> corridor sitting between two ultramafic members. The basalt is dark grev green to dark green in colour with a finely granular texture that becomes more mottled after 1707.2. The rocks are guite ferromagnesian rich and, once the mottled nature to the core occurs at 1707.2, the core is softer, more strongly chloritic, and, appears marginal to ultramafic in composition. The ultimate lower contact chosen, however, is both a flow margin and a magnetic contact at 1715.0 at 43 degrees. Magnetic susceptibilities are quite uniformly low and less than 0.40, with a range of 0.11 to 2.33 including two isolated readings that are greater than 0.83. Just inside the upper contact, the basalt is well fractured with calcite to the point of being a calcitic vein breccia with fragments of basalt from 1686.9-1695.2 at 22/41 degrees. A second, weaker, fractured to calcitic vein breccia zone extends from 1700.9-1701.7 at 50/47 degrees. Outside of the two vein breccias, calcite (with rare quartz) fractures and stringers make up about 10% of the rock. Flow features are not well developed until the lower, mottled corridor where there are foliated to to contorted and crudely brecciated sections at variable angles to the core axis. Pyrite mineralization is weak, with trace only disseminated cubic pyrite and pyrite

1715.0 1755.1 Ultramafic Komatiite Ultramafic - return to an ultramafic package of rocks. In this sector, the rocks are fine grained to very fine grained with a massive to locally mottled texture. The ultramafics are highly foliated to contorted at shallow angles to the core axis and are irregularly fractured to streaked with calcite +/- magnesite. The foliated to contorted nature precludes much potential definition of the flows. Magnetics are strongest in the central portion of this zone with susceptibilities from 3.77 to 36.7 - there are weaker readings at the upper contact (to 1716.2) from 1.33 to 5.47. and, weaker readings from 1743.9-1748.5 of 0.57 to 2.38 prior to one of the calcite fractured to vein breccia styles of occurrence at the base of the zone from 1748.5-1754.1 where susceptibilities are 0.72 to 12.7. The vein breccia zone is at degrees - the lower contact is gradational into foliated, streaky calcitic ultramafics that are much more weakly magnetic. Some of the fragments in the vein breccia zone are greener in colour and look marginal to basalt to basaltic komatiite in composition, but most are clearly with a variable mottling from carbonate +/amphibolitization. The rocks continue to be sparsely mineralized with disseminated pyrite but a few streaks with fine pyrite and calcite are noted at the top of the system down to 1722.6 feet. There is a narrow granulated section with a trace of mud over 1.2 cms at 1735.6 at 52 degrees. The lower contact is at 44 degrees.

aggregates. The lower contact is sharp at 43 degrees.

ATTO Sample From AIJ AU1 (ft) (ft) (ft) OZ/T OZ/T PPB

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

From To (ft)

1715.0 1755.1 Ultramafic Komatiite Ultramafic (continued). As noted above, the calcitic vein breccia from 1748.5 to 1754.1, deteriorates into a foliated to streaky calcitic ultramafic that is also more weakly magnetic after 1754.1. In the wedged section, the first core is at 1746.4 with full-sized core after 1750.1 feet. From 1746.4 to 1750.1 is a streaky, highly contorted ultramafic with susceptibilities from 0.52 to 2.63, followed by a calcitic vein breccia from 1750.1-1755.1 at 25/54 degrees with susceptibilities from 0.81 to 10.7. Given the shallow core angles within the system, combined with the more weakly magnetic rocks that follow, this vein breccia appears to be equivalent to the segment from 1748.5-1754.1 in the primary

hole.

Geology

- 1755.1 1783.1 Ultramafic Komatiite In the primary drillhole, below the vein breccia, the rocks are dark green to black in colour and locally appear marginal to basalt, especially in the presence to fracturing with calcite. streaking accessorv Susceptibilities ranged from 0.32 to 2.89, versus 0.36 to 2.10 in the overlapping wedge portion. A section that was more strongly streaked with calcite after 1772.1 to the end of the primary hole at 1777.8 (stronger after 1774.9), occurs from 1772.9-1783.1 with stronger fracturing to a crudely developed calcitic vein breccia from 1774.9 to 1783.1 at 28/38 degrees. wedge section, the protolith is more clearly In the ultramafic. It is dark green to bluish green and black in colour and is relatively soft. The ultramafic has a mottled to locally more sugary texture, and, there is a scattered development of spinifex textures. The rocks remain highly contorted and variably streaked with calcite. The ultramafic continues to be sparsely mineralized with trace to 1-2% disseminated to streaky pyrite.
- 1783.1 1827.8 Ultramafic Komatiite Mafic Intrusive Contact Zone beneath the calcitic fractured to vein brecciated section from 1772.9-1783.1, the ultramafic is more magnetic once more with susceptibilities from 0.39 to 31.7 (most over 5). The rocks are dark bluish green to blue black in colour, soft, and are fine grained with a finely felted to mottled texture. There are isolated sections with relict spinifex textures. For the most part, the rocks are weakly fractured with calcite and are very sparsely mineralized with pyrite. This contact zone is also cut by two mafic intrusives from 1794.5-1801.3 at 30/26 degrees (lower contact irregular), and, 1815.8 1827.5 at 33 degrees. The upper dyke is brownish to black in colour and is moderately amphibolitized to speckled with amphibole. The lower dyke is reddish toned and more highly fractured with Both dykes are weakly to moderately calcitic. Susceptibilities in the upper dyke are erratic from 0.45 to 14.1, versus stronger magnetics in the lower reddish dyke with readings from 7.65 to 22.8. The lower dyke also contains up to

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(ft)

ΑIJ

OZ/T

AU1

OZ/T

ATT2

PPB

Sample

No.

From

(ft.)

(ft)

From To Geology

2-3% disseminated to fracture controlled pyrite over a few cms. The lower contact of the ultramafic with basalt is over 8 cms after the lower dyke at 33/27 degrees. The contact is quite innocuous the ultramafic is dark bluish green, soft and finely felted to weakly foliated. The contact is along a narrow calcite vein at 27 degrees.

1827.8 2008.1 BASALT GABBRO

Contact into the basaltic package of the Anoki South System. At the outset, the sequence is dark in colour and rich in ferromagnesian minerals but grades to more of the typical gabbroic textured basalt of the hornblende spotted variety after a section of streaky alteration from 1836.7-1837.5 at 29/30 degrees (potential flow margin ??). The basaltic package typically varies from fine to medium grained with weakly to moderately developed gabbroic textures. The gabbroic textured phases vary from a hornblende spotted variety with blocky to subrounded hornblende +/- more acicular to a more feldspathic, salt and pepper phase. The more feldspathic rocks tend to be lighter in colour to medium and dark grey green, while the hornblende spotted rocks are darker grey green to dark green. The rocks are normally weakly to nonmagnetic. Alteration minerals include chlorite, epidote, calcite, hematite and a more grungy style of feldspathic alteration with variable proportions of the other alteration minerals. The basalt is normally wakly reactive to the presence of ankerite but is cut by calcite +/- hematite veins for the most part. The basalt also tends to be weakly magnetic and sparsely mineralized. The sequence breakdown includes:.

- 1827.8 1837.5 Contact Zone as noted above, the contact units of the basaltic package are rich in ferromagnesian minerals and are dark green in colour. The transition into hornblende spotted basalt is along a section with accessory streaky chlorite and epidote alteration from 1836.7 to 1837.5 at 29/30 degrees. The rocks are weakly fractured and very sparsely to unmineralized. Susceptibilities range from 0.31 to 0.70.
- 1837.5 1974.8 Basalt Gabbro contact into more typical gabbroic textured basalts dominated by the hornblende spotted phase. The rocks are dark green to dark grey green in colour with local reddish casts where the core is more pervasively calcitic. One of the more reddish toned sections from roughly 1860 to 1863.5 is more strongly magnetic with susceptibilities from 0.97 to 16.1, versus readings of 0.19 to 1.39 (most under 0.50) over most of the balance of the system. The basalt is weakly to moderately fractured with 5 to 10% irregular calcite some of which are pitted to vuggy. Pyrite mineralization is weak. The basalt contains a number of streaky altered sections with chlorite and epidote that may be construed as flow margins but flows are poorly defined. There is one, softer, very fine grained, finely felted to foliated section of ultramafic in the system at 1887.0-1887.9 at 25/32

69249 1827.8 1831.0 3.2 NIL nil .000 nil 69250 1980.0 1983.0 3.0 TR tr .000 9 3 .000 69251 1983.0 1986.0 3.0 TR 69252 1986.0 1988.8 2.8 TR .001 .000 38 2 69253 1988.8 1991.0 2.2 TR-1 tr .000 1991.0 1993.0 .000 nil 69254 2.0 TR-1 nil 69255 1993.0 1996.0 3.0 TR-1 .000 2 tr 69256 1996.0 1999.0 3.0 TR - 1 nil .000 nil 69257 1999.0 2002.0 3.0 TR-1 nil .000 nil 3 69258 2002.0 2005.0 3.0 TR-1 tr .000 3 69259 2005.0 2008.1 3.1 TR-1 tr .000

Geology

From To (ft)

Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

degrees - lower contact broken with veining. There is also a fine grained mafic intrusive in the system from 1922.7-1923.5 at 24/23 degrees - contacts with more strongly epidote altered basalt over 2.5 and 6 cms respectively. Below the dyke the core is blocky and partly ground from 1923.5-1923.8, and, the core is ground with 3 feet lost from 1925.2-1928.2 (no physical indication of gouge). The core becomes more erratically magnetic again after 1965 feet with susceptibilities from 0.47 to 12.6. The lower contact is gradationally more calcitic and, after 1971, more reddish toned and amphibolitic. The lower contact is tentatively placed along a 5.2 cm quartz-calcite vein at 42 degrees.

1974.8 2008.1 Amphibolitic calcite - contact into an amphibolitic and calcitic corridor with increased magnetic susceptibilities from 5.38 to 51.5. The magnetics, in a crude sense, increase with depth, and, the intensity of alteration with calcite and amphibole is similarly stronger with depth. A weak foliation is developed in the top of the system at 45 to 55 degrees with wispy to streaky amphibolitic material and strong calcite in a dark green to black, amphibolitized, basaltic protolith. Beneath the weakly foliated zone there is a more highly altered and contorted unit with traces of ultramafic material from 1988.8 to 1993.0 at 32/68 degrees, prior to the basal segment which is strongly altered with calcite and amphibole and is locally marginal to incipient alteration in appearance. The basal segment has a weakly to moderately developed foliation at 60 to 70 degrees and is more orangish toned over a dull grey to black and brownish toned basaltic protolith. The basal segment also contains scattered wisps to streaks with ultramafic material up to 6 cms in core length - largest section at 1999.8, 6 cms with ultramafic streaks at 62/59 degrees. Beyond the lower contact, the dominant protolith appears to be altered ultramafic.

1974.8 2008.1 Amphibolitic calcite (continued). Veining with quartz and calcite is best developed in the top of the system with 5 to 15% irregular veins down to 1993.0. Pyrite mineralization is weak - the contorted zone contains up to 1-2% disseminated to streaky material plus one tiny bleb of chalcopyrite at 1989.8. The basal, more strongly altered, segment hosts trace to 1% disseminated pyrite. There are also a handful of fine fractures with gypsum in the basal segment to 3 mms in size parallel to the foliation. The lower contact is sharp at 57 decrees.

2008.1 2034.5 ULTRAMAFIC

Contact into a short package of rocks that sit between the basalts and the carb rocks at the start of the Anoki Deep System. The package is dominated by black to blue black ultramafic but there are a number of brownish to greyish altered sections in the top of the sequence to 2019.8 that may

.000 22 69260 2008.1 2011.3 3.2 1-2 .001 7 2011.3 2014.5 3.2 1-2 tr .000 69261 2 .000 2014.5 2017.0 2.5 TR tr 69262 nil TR nil .000 69263 2017.0 2019.8

Drill Hole AN03-47W Page: 19 of 40 Len

(ft)

3.2

3.0

3.0

3.0

2.5

TR

TR

TR

TR

ТR

Sample

No.

69264

69265

69266

69267

69268

From

(ft)

To

(ft)

2019.8 2023.0

2023.0 2026.0

2026.0 2029.0

2029.0 2032.0

2032.0 2034.5

ΑU

OZ/T

tr

tr

tr

t r

AU2

PPB

3

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10

AU1

OZ/T

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reflect altered basalt. In addition, there are amphibolitized patches and
alteration striping to crudely developed incipient alteration in the system
such that the only clear protolith is the softer ultramafic rocks. The
ultramafic is fine grained, variably amphibolitized and has a finely
granular to mottled texture. It is weakly to moderately foliated at 60 to 70
degrees to the core axis. Some gouge is developed in the more continuous
ultramafic rocks at the base of the system after 2019.8 as at 2020.4 - 3 mms
at 69 degrees; 2021.1 - a gritty slip at 52 degrees; 2022.0 - 3 mms amongst
broken core; 2024.4 - 1.5 cms granulated to gouged at 69 degrees; 2031.0 - 2
mms at 57 degrees; 2031.6 - 3 mms at 51 degrees, and; at the base of the
system at 2034.5 - 1.5 cms at 77 degrees. The contact into ultramafic rocks
is also marked by a switch to ankerite as the dominant carbonate mineral.

Geology

The strongest alteration striping to crudely developed incipient alteration is best developed at the top of the system to 2014.5. This segment also hosts a higher proportion of material that could be construed as altered basalt, and, is the most strongly magnetic with susceptibilities from 19.4 to 90.7. Susceptibilities range from 9.72 to 28.6 between 2014.5 and 2019.8 where brownish alteration and amphibolitization is more patchy in distribution. The more clearly ultramafic rocks after 2019.8, have readings from 0.23 to 32.3 (most less than 10). The ultramafics are increasingly more strongly carbonated in the basal sector and are cut by irregular dykelets of syenite after 2032.2 feet. Below the fault gouge at the lower contact, the ultramafic character of the protolith is essentially obliterated by the strong carb alteration. The core is variably streaked to alteration striped with ankerite but well developed veining is minimal in the system. Pyrite mineralization is elevated to 1-2% disseminated pyrite cubes and aggregates over a few cms in the top of the system to 2014.5 feet - with trace amounts lower in the section. The lower contact of the ultramafic is along a 1.5 cm fault gouge at 77 degrees.

2034.5 2169.4 CARBONATED ZONE GREEN CARBONATE ZONE

From

(ft.)

To

(ft)

Contact into a package of carb rocks that mark the start of the Anoki Deep System. The carb system is essentially divided into two parts - an upper zone that is riddled with felsic dykes cutting yellowish, sericitic carb to emerald green fuchsitic carb rocks to 2122.7, and, a much duller, drab carb system that is greener in colour with more scattered dykes and patches of sericitic to fuchsitic carb. Both zones are highly altered and are best addressed individually as:.

2034.5 2122.7 Carbonated Zone Felsite - the upper part of the carb system is by sericitic carb rocks and dykes of felsic intrusives with patchy fuchsitic carb at the top of the system to 2040.5, and, more common fuchsitic carb in the lower part of the zone from 2082.7-2122.7. The felsic dykes are the most distinctive units in the system. They are very fine grained with scattered, indistinct phenocrysts of feldspar to a couple of mms in size. The dykes are very hard and cherty to glassy in nature. They are finely fractured to crackled and crudely shattered with ankerite and range from pale grey to grey beige

69269	2034.5	2037.0	2.5	TR	tr	.000	2	
69270	2037.0	2039.0	2.0	NIL	.002	.000	62	
69271	2039.0	2041.6	2.6	TR	.001	.000	19	
69272	2041.6	2044.5	2.9	NIL	tr	.000	7	
69273	2044.5	2047.3	2.8	TR	tr	.000	2	
69274	2047.3	2050.0	2.7	TR-1	.002	.000	60	
69275	2050.0	2053.0	3.0	TR-1	.005	.000	166	
69276	2053.0	2056.0	3.0	TR-1	.001	.000	51	
69277	2056.0	2058.0	2.0	TR	tr	.000	12	
69278	2058.0	2060.9	2.9	TR	.001	.000	22	
69279	2060.9	2063.1	2.2	TR-1	.001	.000	22	
69280	2063.1	2064.8	1.7	TR-1	.004	.000	127	
69281	2064.8	2067.0	2.2	TR-1	.003	.000	87	
69282	2067.0	2070.4	3.4	TR	.002	.000	55	
69283	2070.4	2072.8	2.4	TR	tr	.000	2	
69284	2072.8	2075.0	2.2	TR-1	tr	.000	17	
69285	2075.0	2078.2	3.2	TR	tr	.000	10	
69286	2078.2	2081.1	2.9	TR	.004	.000	141	

Len

Sample

From

To

AU1

AU

AU2

From To (ft)

Geology

in colour with variable orangish tones. The sericitic carb members are best developed in the top of the section to 2082.7. They are fine grained to finely granular textured and vary from dull yellow ochre to beige and locally more lime coloured in the presence of fuchsite. The sericitic carb at the top of the zone is also variably reddish to orangish toned and is siliceous - locally looking like more strongly altered dyke material. Contacts between the dykes are invariably irregular and are often at very shallow angles to the core axis. Below 2082.7, the sericitic carb occurs as dull yellow ochre to beige and yellow olive streaks to patches in the dull to bright emerald green fuchsitic carb.

2034.5 2122.7 Carbonated Zone Felsite (continued). Magnetic susceptibilities range from 0.02 to 0.49 with the cherty felsic dykes being routinely less than 0.10. The cherty dykes and the sericitic carb rocks are the better mineralized parts of the system with up to 1-2% disseminated to fracture controlled pyrite over a few cms. Fine, irregular fracturing to veining with ankerite +/- quartz is common across the system, averaging about 10 to 15%. Felsic dykes are found in the system at: 2041.6-2047.3 at degrees (this dyke is very poorly mineralized); 2057.0-2057.6 at 28/64; 2060.9-2063.1 - a series of narrow dykelets just threading the core axis; 2064.8-2067.0 - a single dyke just cutting the core axis; 2070.4-2071.8 at 36/48; 2072.8-2078.2 at 42/51 with streaky carb sections at the top of this unit at 25 to 30 degrees to 2073.7; 2081.1-2082.7 at 59/57 (lower contact with the start of the more continuous fuchsitic carb as the host); 2083.3-2084.9 at 49/74; 2089.3-2091.3 at 23/54; 2100.7-2105.2 at 49/59, lower contact irregular with narrow irregular dyklets to patches of along the core axis in green carb to 2106.5; 2107.1-2111.0 at 39/48; 2111.5-2112.0 at 71/44; 2112.2-2119.7 at 36/30 with an internal patch of sericitic and fuchsitic carb just running along the core axis from 2114.1-2115.1 (does not cut across the the core), and; 2121.2-2122.7 at 37/54 degrees - contacts are generally very irregular. The lower contact is sharp at 54 degrees.

2122.7 2169.4 Carbonated Zone - contact along a felsic dyke into a zone of drab green carb rocks. At the outset, this section is much more strongly chloritic than previous, harder, granular textured and suggestive of a basaltic protolith although a softer, streaky, chloritic ultramafic component is definitely present intermittently after 2137.8. The sequence grades from a chloritic, granular textured carb rock to carbonated basalt with numerous blebs of ankerite into a crudely foliated (at 30 to 45 degrees) carb rock circa 2135.7 - in this foliated section, there is a stronger reddish colouration to the ankerite blebs which crudely allign themselves into streaks. The first sense of streaky ultramafic material occurs in the weakly foliated zone at 2137.8, with a transition into more

OZ/T OZ/T PPB (ft) (ft) (ft) olo o No. .000 2 69287 2081.1 2082.7 1.6 TR tr nil 2082.7 2084.9 2.2 nil .000 69288 2084.9 2087.0 2.1 TR tr .000 14 69289 .000 nil 69290 2087.0 2089.3 2.3 TR nil 69291 2089.3 2091.3 2.0 TR .001 .000 21 .000 2091.3 2094.5 3.2 TR .001 34 69292 .000 nil nil 69293 2094.5 2097.5 3.0 TR 2097.5 2100.7 tr .000 10 69294 3.2 TR 2100.7 2104.0 3.3 TR nil .000 nil 69295 10 69296 2104.0 2107.1 3.1 TR tr .000 21 .001 .000 2107.1 2109.0 1.9 69297 tr .000 2 69298 2109.0 2111.0 2.0 TR-1 .000 21 69299 2111.0 2113.0 2.0 TR-1 .001 .000 82 69300 2113.0 2115.1 2.1 1-2 .002 1.9 1-2 .002 .000 53 69301 2115.1 2117.0 9 69302 2117.0 2119.7 2.7 1-2 tr .000 .000 69303 2119.7 2122.7 3.0 TR-1 .001 26 2122.7 2126.0 3.3 TR tr .000 2 69304 nil 2126.0 2129.0 3.0 TR nil .000 69305 .000 5 69306 2129.0 2132.1 3.1 tr .000 nil 2132.1 2135.0 TR nil 69307 2.9 69308 2135.0 2138.0 3.0 TR tr .000 3 2138.0 2141.0 TR nil .000 nil 69309 3.0 .000 2 2141.0 2144.0 3.0 TR tr 69310 2144.0 2147.3 3.3 2 - 3 .001 .000 19 69311 nil 2147.3 2150.9 3.6 1-2 nil .000 69312 .000 nil 69313 2150.9 2154.0 3.1 TR-1 nil 69314 2154.0 2157.0 3.0 TR nil .000 nil nil .000 nil 3.0 TR 69315 2157.0 2160.0 2160.0 2163.0 3.0 TR-1 tr .000 14 69316 10 69317 2163.0 2166.1 3.1 TR-1 tr .000 .000 nil 69318 2166.1 2169.4 3.3 TR-1 nil

Drill Hole AN03-47W Page: 21 of 40

(ft)

Sample

No

From

(ft.)

To

(ft)

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AU2

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AU1

OZ/T

Geology

From To (ft)

normal carb rocks occurring across a dull grey green to grey and reddish toned carb section that is streaked to fractured with chlorite from 2148.1-2150.9 at 39/24 degrees. The carb rocks from 2150.9 to 2169.4 are dull to dark emerald green in colour with a weak sense of an ultramafic component and several patches of grey to beige, yellow olive and dull yellow carb at shallow angles to the core axis - largest from

2154.3-2155.3 at 27/30 degrees (contacts converging). 2122.7 2169.4 Carbonated Zone (continued). The top part of the system is much more erratically magnetic with susceptibilities from 0.30 to 33.5, versus 0.15 to 0.36 in the fuchsitic carb rocks after 2150.9. The stronger magnetic susceptibilities tend to cue with the more reddish toned and chloritic rocks in the top of the system. The top of the section is also cut by a handful of dull grey to orangish, siliceous, felsic dykes with irregular contacts at: 2123.1 - 5 cms at 36 degrees; 2131.2-2132.1 at 62/52 degrees; 2137.1-2137.8 at 60/44 degrees; at 2143.7 - 9 cms at 58 degrees; 2144.5 - 2 cms at 55 degrees; 2144.7 - 3 cms at 53 degrees, and; from 2146.4 to 2147.3 with irregular of dyke material just cutting the core axis. Susceptibilities in the dykes range from 0.14 to 1.68. The grey to beige and sericitic carb rocks, and, some of the more reddish toned intervals host up to 2 3% finely disseminated to fracture controlled pyrite over a few cms but mineralization is not sustained over any distance. While the rocks are well streaked to fractured with ankerite, quartz-ankerite veining is weak overall in the system (best by far is between 2164.7 and 2166.0 where there are 20% irregular veins). The first characteristic of the alteration that is streaky volcaniclastic complex is noted at 2166.1 feet but the first fragments that are diagnostic of the volcaniclastics in this area are not noted until 2169.4. The lower contact is diffuse but sharply gradational at 62 degrees.

2169.4 3010.9 VOLCANICLASTIC

Contact into the volcaniclastic rocks of the Anoki Deep System. The Anoki Deep rocks sit in a wedge-shaped zone between the flatly south-dipping Anoki Deep Carb structure and the Larder Lake Break. The sequence is characterized by granular to gritty textured rocks with variable wispy to streaky chlorite and sericite alteration. In addition to the granular textured rocks, much finer grained silty to ashy members are present, and, fragments are common. The package is highly variable and is best addressed under a sequence breakdown as:.

2169.4 2204.6 Carbonated Zone Volcaniclastic - the contact member of the volcaniclastic sequence is characterized by numerous polymict fragments to 3 cms in size that are normally stretched from 3:1 to 6:1 subparallel to the foliation. The rocks are highly altered and bleached, and, are variably contorted at 0 to 70 degrees to the core axis - dominant foliation to crudely

.003 .000 120 2 - 3 69319 2169.4 2172.0 2.6 2172.0 2175.0 3.0 2 - 3 .006 .000 201 69320 117 2175.0 2178.0 3.0 1 - 2 .003 .000 69321 163 69322 2178.0 2181.0 3.0 2-3 .005 .000 nil 2.0 2 - 3 nil .000 2181.0 2183.0 69323 226 1 - 3 .007 .000 69324 2183.0 2184.9 1.9 NIL nil .000 nil 69325 2184.9 2187.6 2.7 2-4 .006 .000 197 2.4 69326 2187.6 2190.0 123 69327 2190.0 2193.0 3.0 2 - 4 .004 .000 nil 1-2 nil .000 69328 2193.0 2196.0 3.0 91 2 - 4 .003 .000 69329 2196.0 2199.0 3.0 2199.0 2202.0 3.0 3 - 5 .008 .000 274 69330 .002 .000 57 2.6 2 - 4 69331 2202.0 2204.6 .000 nil 69332 2204.6 2208.0 3.4 TR-1 nil .000 69333 2208.0 2211.0 3.0 TR-1 .002

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2223.0 2226.0

2226.0 2229.0

2229.0 2231.4

2231.4 2234.0

2234.0 2237.0

2237.0 2240.0

2240.0 2243.0

2243.0 2246.0

2246.0 2249.0

2249.0 2252.0

2252.0 2255.0

2255.0 2258.0

2258.0 2261.0

2261.0 2264.0

2264.0 2267.0

2267.0 2270.0

2270.0 2273.0

2273.0 2276.0

2276.0 2279.0

2279.0 2282.0

2282.0 2285.0

2285.0 2288.0

2288.0 2290.0

2290.0 2292.7

2292.7 2296.0

2296.0 2299.0

2299.0 2301.2

2301.2 2304.0

2304.0 2307.0

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(ft) (ft) developed layering at 50 to 60 degrees. The sequence is beige

To

From

to pale greenish beige in colour and is highly streaked with beige to off-white ankerite. There are scattered streaks to patches of fuchsitic carb to 5 cms in size within the system with one larger interfingered carb section from 2184.9-2187.6 at 58/41 degrees. Some semblance of a gritty texture is common in the system. The altered volcaniclastics are normally weakly magnetic with susceptibilities less than 0.35, but there is some disseminated magnetite in the system such that the range in readings is from 0.17 to 15.3. Quartz +/- ankerite veining is poorly developed, averaging less than 5% irregular veins. mineralization reaches up to 3-5% dull bronzy disseminated to to streaky material. The lower contact area is more highly contorted along the core axis from 2195.7-2204.6 and contains a stronger chloritic +/- ultramafic component in the very fine matrix (silty ??). Lower contact at 60 degrees.

Geology

- 2204.6 2217.0 Volcaniclastic altered contact into a short, more chloritic section of volcaniclastic sitting between two, more highly bleached and carbonated intervals. Fragments continue to be common in the system with numerous subrounded to stretched fragments to 3 cms in size in addition to some larger, subrounded features to 11 cms that may be fragments. The matrix component is very fine grained and silty to ashy in nature with a strong chlorite component plus some softer, reworked (??) ultramafic material. Sericite is more common after 2211.7. With increased ankerite streaks to layers (?) and fractures, the rocks grade from streaked and contorted after 2211.7, to more foliated, streaky altered, and carbonate injected to ankerite layered after 2213.5 at 60 to 70 degrees to the core axis. Sericite and ankerite increase across this lower zone grading to more highly bleached and altered volcaniclastics at the lower contact at 67 degrees. Magnetic susceptibilities in this interval are low from 0.18 to 0.41. True veining is hard to separate from the ankerite streaking to injections (??) but it appears minimal. Mineralization consists of up to 2-3% dull bronzy pyrite over a few cms as streaky to to disseminated grains and pyrite aggregates. The lower contact is tentative and gradational into more highly altered and bleached rocks at 67 degrees.
- 2217.0 2231.4 Carbonated Zone Volcaniclastic return to highly altered and bleached volcaniclastics as the contact zone of the system. Again, the rocks are much paler in colour to beige and greenish beige with some streaky altered patches to streaks of fuchsitic and sericitic carb. For the most part, the protolith is nearly obliterated by the strong ankerite alteration with only a weak semblance of the granular to gritty texture and poorly defined altered fragments to a couple of cms in size. The package continues to be variably contorted with a dominant foliation at 60 to 70 degrees. Magnetic susceptibilities are

(ft)

Sample

69423

69424

69425

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69433

69434

69435

2535.0 2538.0

2538.0 2541.0

2541.0 2544.0

2544.0 2547.0

2547.0 2550.0

2550.0 2553.0

2553.0 2556.0

2556.0 2558.0

2558.0 2560.1

2560.1 2563.0

2563.0 2566.0

2566.0 2569.0

No.

From

(ft)

То

(ft)

ΑIJ

OZ/T

AU1

OZ/T

.000

.000

.000

.000

.000

.000

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.000

.000

.000

.000

.000

nil

24

10

2

2

2

24

nil

nil

209

136

AU2

PPB

To From (ft) (ft)

low from 0.22 to 0.29. Again, true veining averages less than 5% at generally steep angles to the core axis - veins may be contorted but do not necessarily follow the foliation. Pyrite is patchy with up to 5-7% dull bronzy mineralization disseminated grains to streaks and pyrite aggregates. The lower contact is gradational into greener rocks again foliation at the lower contact at 64 degrees, cut by a partly disrupted quartz-ankerite vein at 46 degrees.

Geology

- 2231.4 2273.0 Volcaniclastic contact into greener coloured and somewhat cleaner volcaniclastics, dominated by the granular to gritty textured phase with moderate to strong wispy to streaky alteration from sericite and chlorite. There are scattered tiny fragments in the system, and, blebs to fragments (??) of ankerite but, for the most part, foreign fragments at a premium. As above, the rocks are variably contorted with a dominant foliation to streaking and layering at 60 to 70 degrees. The rocks are moderate to strongly ankeritic but there are few sections where the protolith is obliterated by the alteration, and then, only over a couple of cms. The rocks, however, are more foliated to streaked with ankerite below 2261.0 approaching the lower contact with a more silty to ashy phase. Magnetic susceptibilities are stronger in this lower section from the presence of disseminated magnetite susceptibilities are elevated from 0.68 to 19.1 commencing at 2252.6. versus 0.19 to 0.46 at the top of the zone. There is about 5% irregular to contorted quartz-ankerite veining in the system. Pyrite mineralization is much weaker here with up to trace to 1% streaky to disseminated material. The lower contact is streaky altered and is in a partly contorted area at 52 degrees - the ankerite streaked rocks having a weak reddish cast in this area as well.
- 2273.0 2331.8 Volcaniclastic coarse contact into a section of volcaniclastic with a generally finer grained, dark green to dark grey green, silty to ashy matrix. Granular to gritty textured sections are at a minimum in this corridor, becoming more common with depth approaching the contact with more granular textured rocks. The section also contains relatively numerous coarser fragments to 10 cms in size - most fragments are in the range of 5 mms to 4 cms, and are subrounded to stretched subparallel to the foliation to layering. The foliation to layering is contorted to locally chaotic with a primary orientation at 60 to 70 degrees to the core axis. The ankerite streaked nature to the core persists into the coarse fragmentals, and, there are a handful of carbonate injected to carbonate replaced intervals from a cm to 37 cms in size where the the protolith is totally obliterated by off-white to beige ankerite +/- streaky to wispy sericite (more rarely with fuchsite). The largest of these carbonated replaced intervals extends from 2290.6-2291.8 at 69/77 degrees, with the last of

ТŔ tr .000 3 2358.9 2362.0 3.1 69385 .000 ni1 69386 2362.0 2364.0 2.0 TR nil .000 69387 2364.0 2366.0 2.0 TR tr 5 .000 nil 2366.0 2369.0 3.0 NIL nil 69388 .000 2 69389 2400.0 2403.0 3.0 NIL tr 2403.0 2406.1 TR tr .000 2 69390 3.1 7 .000 2406.1 2409.0 2.9 TR tr 69391 2409.0 2412.0 3.0 TR nil .000 nil 69392 7 .000 69393 2412.0 2415.0 3.0 TR tr .000 7 69394 2415.0 2418.0 3.0 TR tr .000 nil 3.0 TR nil 69395 2418.0 2421.0 12 69396 2421.0 2424.0 3.0 tr .000 .000 5 69397 2424.0 2427.0 3.0 NIL tr 2427.0 2430.0 TR tr .000 9 69398 3 0 69399 2430.0 2433.0 3.0 ΤR nil .000 nil .000 1.0 69400 2433.0 2435.2 2.2 TR tr 2.8 NIL nil .000 nil 69401 2435.2 2438.0 TR nil .000 nil 69402 2438.0 2441.0 3.0 nil nil .000 69403 2474.0 2477.0 3.0 TR 2477.0 2480.3 3.3 TR nil .000 nil 69404 nil nil .000 69405 2480.3 2483.0 2.7 nil nil .000 69406 2483.0 2486.0 3.0 NIL .000 2 2486.0 2489.0 3.0 NIL tr 69407 2489.0 2492.0 3.0 TR tr .000 3 69408 .000 nil 69409 2492.0 2495.0 3.0 TR nil nil .000 nil 69410 2495.0 2498.0 3.0 nil TR nil .000 69411 2498.0 2501.0 3.0 .000 5 69412 2501.0 2504.0 3.0 TR tr 2504.0 2507.0 3.0 TR tr .000 2 69413 .000 nil 69414 2507.0 2510.0 3.0 TR nil nil nil .000 69415 2510.0 2513.0 3.0 NIL TR .000 5 69416 2513.0 2516.0 3.0 t.r 2516.0 2518.5 2.5 NIL tr .000 3 69417 2 2518.5 2520.5 TR t.r .000 69418 2.0 69419 2520.5 2523.4 2.9 TR tr .000 3 2523.4 2525.9 2.5 TR tr .000 69420 .000 2 TR 69421 2525.9 2529.0 3 1 tr 2529.0 2532.0 TR tr .000 5 69422 3.0 9 2532.0 2535.0 3.0 TR tr .000

3.0

3.0

3.0

3.0

3.0

3.0 2.0 TR-1

3.0

3.0

3.0 TR-1

2.1 TR-1

2.9 TR-1

TR

TR

TR

TR

TR

TR-1

TR-1

TR

nil

.001

.006

tr

tr

.004

.002

tr

tr

.001

nil

nil

.000 231

From (ft)	To (ft)	Geology	Sample No.	From To (ft)	Len (ft)	PY %	AU OZ/T	AU1 OZ/T	AU2 PPB
		these features from 2292.4 2292.7 at 61/67 degrees. The	69436	2569.0 2571.0	2.0	TR	t.r	.000	3
		carbonate replacement locally grades into more ankerite	69437	2571.0 2573.4	2.4	TR	.008	.000	266
		streaked rocks suggesting the replacement is a more extreme	69438	2573.4 2576.0	2.6	1-2	.021	.000	735
		form of the streaky alteration.	69439	2576.0 2577.6	1.6	TR-1	nil	.000	nil
		2273.0 2331.8 Volcaniclastic coarse (continued). The ankerite streaking at	69440	2577.6 2580.0	2.4	TR-1	nil	.000	nil
		the top of the system is partly reddish toned and the rocks	69441	2580.0 2583.0	3.0	1 - 2	.001	.000	26
		are again erratically magnetic down to 2301.2 with	69442	2583.0 2586.0	3.0	1-2	.001	.000	36
		susceptibilities from 0.41 to 30.7. More weakly magnetic	69443	2586.0 2589.0	3.0	TR-1	.001	.000	51
		rocks, with susceptibilities from 0.09 to 0.33, are	69444	2589.0 2592.0	3.0	TR	.001	.000	39
		encountered from 2301.2 to the lower contact - the change in	69445	2592.0 2594.0	2.0	TR-1	.003	.000	111
		the magnetism occurs at the base of a cleaner looking coarse	69446	2594.0 2597.0	3.0	TR	nil	.000	nil
		fragmental section from 2292.7-2301.2 with well defined	69447	2597.0 2599.0	2.0	TR	tr	.000	7
		polymict fragments (unit is the first member, footwall to the	69448	2599.0 2601.5	2.5	TR	tr	.000	10
		last of the carbonate replaced sections). Quartz ankerite	69449	2601.5 2604.0		TR-1	.003	.000	105
		veining continues to account for less than 5% of the rocks.	69450	2604.0 2607.0	3.0	1-2	.024	.000	824
		Pyrite mineralization reaches up to 2-3% disseminated to	69451	2607.0 2609.6		TR-1	.016	.000	555
		streaky material over a few cms. Given that there is an	69452	2609.6 2613.0	3.4	1-2	.073	.000	2491
		increase in intercalated granular textured material	69453	2613.0 2616.0		TR-1	.027	.000	931
		approaching the base of the section, the lower contact	69454	2616.0 2619.0	3.0	TR	.001	.000	34
		placement is tentative at a silty/granular interface where the	69455	2619.0 2622.0	3.0	TR	.002	.000	79 nil
		is a 2.8 cm quartz fragment - layering to foliation at the	69456	2622.0 2625.0		TR-1	nil		605
		contact is at 82 degrees.	69457	2625.0 2628.0	3.0	TR	.018 .001	.000	43
			69458	2628.0 2631.0	3.0	TR-1 TR	.001	.000	81
		2331.8 2358.9 Volcaniclastic - return to a more granular textured package of	69459	2631.0 2634.0	3.0	TR-1	.120	.000	4112
		volcaniclastic rocks with a minor amount of silty to ashy	69460	2634.0 2637.0	3.0	2-3	.019	.000	651
		material. The core varies from medium to dark grey green and	69461 69462	2637.0 2640.0 2640.0 2643.0		TR-1	.005	.000	183
		green in colour with local paler sections in the presence of	69463	2643.0 2646.0	3.0	TR-1	.003	.000	110
		accessory ankerite +/- sericite. The gritty textures are not	69464	2646.0 2649.0	3.0	2-3	.017	.000	593
		developed in this section - textures are commonly granular to	69465	2649.0 2652.0	3.0	1-2	.010	.000	360
		mottled from the strong alteration. There are scattered	69466	2652.0 2655.0	3.0	3-5	.046	.000	1577
		fragments in the system to 2 cms in size but fragments are generally at a premium. Magnetic susceptibilities range from	69467	2655.0 2658.0	3.0	3 - 5	.014	.000	478
		0.13 to 0.24. The core is irregularly streaked to fractured	69468	2658.0 2660.0	2.0	3-5	.050	.000	1715
		with 10 to 15% quartz-ankerite stringers, in addition to a	69469	2660.0 2662.0	2.0	2 - 3	.016	.000	542
		strong ankerite component of streaks to blebs. The veining is	69470	2662.0 2664.5	2.5	2-3	.005	.000	171
		commonly contorted to disrupted. Pyrite mineralization is	69471	2664.5 2667.0	2.5	1-2	.002	.000	62
		weaker in this interval with up to trace to 1% finely	69472	2667.0 2670.0	3.0	1-3	.005	.000	163
		disseminated material. The lower contact is along a 9 cm	69473	2670.0 2673.0	3.0	2-3	.009	.000	295
		section of carbonate invaded volcaniclastic with a more silty	69474	2673.0 2675.6	2.6	2-3	.004	.000	137
		to chloritic matrix at 73/71 degrees.	69475	2675.6 2677.7	2.1	1-2	.003	.000	93
		<u> </u>	69476	2677.7 2681.0	3.3	TR	.002	.000	62
		2358.9 2406.1 Volcaniclastic - contact into a medium to dark green, very	69477	2681.0 2684.0	3.0	TR-1	.001	.000	24
		fine grained silty to ashy segment. The core exhibits a weakly	69478	2684.0 2687.0	3.0	TR-1	tr	.000	17
		to moderately developed foliation at 70 to 80 degrees to the	69479	2687.0 2690.0	3.0	TR-1	.001	.000	22
		core axis. The rock is very fine grained with a wispy to	69480	2690.0 2693.0	3.0	TR	.001	.000	31
		streaky alteration from chlorite and sericite. Magnetic	69481	2693.0 2695.6	2.6	TR	tr	.000	3
		susceptibilities are less than 0.25 over most of the zone,	69482	2695.6 2698.0	2.4	TR	nil	.000	nil
		grading higher to 0.84 after 2404 feet - range is 0.17 to	69483	2698.0 2701.0	3.0	TR-1	.001	.000	26
		0.84. The first calcite appears in the system below a narrow	69484	2727.0 2730.3		TR·1	tr	.000	14
		mud slip at 2471.6 at 77 degrees - the protolith remains	69485	2730.3 2733.5	3.2	1-2	.001	.000	19
		d	69486	2733 5 2736 2	2.7	2 - 3	.007	.000	231

69486

2733.5 2736.2

2.7 2-3

moderate to strongly ankeritic with the calcite occurring as a

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Sample

From

To

PΥ

ΑU

AU2

AU1

From	ТО
(ft)	(ft

weak refracturing of some of the quartz veins. The slightly more magnetic portion at the end of the zone is noncalcitic. Veining is weak with an average of 5% quartz +/- ankerite and calcite. There is trace only disseminated pyrite in the system. These rocks are quite strongly chloritic although they are fresher in appearance than previous. There are isolated

more strongly carbonated to carbonate invaded sections with close-packed blebs to streaks of ankerite that essentially obliterate the rock the widest is at 2364.0-2366.0 at 75/69 degrees. The lower contact is with a wider zone that is invaded with ankerite at 72 degrees.

Geology

2406.1 2435.2 Ankeritic magnetic - contact into a wider zone where the volcaniclastics are invaded by ankerite. The ankerite occurs as close packed blebs that will coalesce into streaks subparallel to a moderately developed foliation at 45 to 80 degrees - average foliation at 75 degrees. The protolith appears to be a dark green to very dark green silty to ashy volcaniclastic with streaky chlorite +/- sericite alteration that has been nearly obliterated by the strong ankerite alteration. Magnetic susceptibilities are elevated in this corridor from 0.45 to 35.2, with most of the readings in the central part of the zone (2409 to 2433) greater than 20. While ankerite alteration is strong, there is only 5-10% true quartz-ankerite veining in the system. Mineralization consists of trace disseminated pyrite and pyrite aggregates. The lower contact marks a return to chloritic volcaniclastics at 77

degrees.

2435.2 2480.3 Volcaniclastic - return to medium to dark green, very fine grained, silty to ashy volcaniclastics. A moderately contorted nature is more evident in the volcaniclastics here with a dominant foliation from 65 to 75 degrees. The rocks commonly have a fine mottled texture from the strong alteration with chlorite plus a local granular texture that develops more from carb alteration than granular to gritty textured rocks. Calcite is again noted in the system with a weak speckling to refracturing between 2450 and 2478.5 - the protolith remains moderately ankeritic throughout. Magnetic weakly to susceptibilities are elevated at the top of the zone to 2437.5 from 0.86 to 2.01, and, in a more magnetic interval from 2446.9-2448.2 (at 77 degrees) where the rocks are more strongly streaked with ankerite - susceptibilities of 0.29 to 13.4, versus 0.25 to 0.42 in the balance of the system. Quartz-ankerite veining averages about 5% irregular veins. Mineralization is weak with up to trace to 1% disseminated pyrite and pyrite aggregates. The lower contact is tentative into a zone with greyer quartz-ankerite veining - the first discontinuous veins noted at the base of this section after 2477.7. The tentative lower contact is at 63 degrees.

(ft) (ft) OZ/T OZ/T PPB No. (ft) 2.4 .012 .000 423 2736.2 2739.0 2.8 69487 713 021 .000 2739.0 2741.0 2.0 3 - 5 69488 69489 2741.0 2743.0 2.0 2-4 tr .000 7 001 .000 3.8 2.0 2-3 69490 2743.0 2745.0 .000 69491 2745.0 2748.0 3.0 2 - 3 tr 2 2 - 3 .001 .000 39 69492 2748.0 2751.0 3.0 .001 .000 3.3 2751.0 2754.0 3.0 2-4 69493 2754.0 2756.9 2.9 2-4 .001 .000 36 69494 7 .000 69495 2756.9 2760.0 3.1 TR tr nil .000 nil 69496 2760.0 2762.0 2.0 TR .000 9 TR tr 69497 2762.0 2765.0 3.0 27 69498 2765.0 2768.0 3.0 TR .001 .000 tr .000 10 69499 2768.0 2771.0 3 0 TR 2771.0 2774.0 TR tr .000 5 69500 3.0 nil 69501 2774.0 2777.0 3.0 TR nil .000 .000 3 69502 2777.0 2780.0 3.0 TR tr TR-1 tr .000 69503 2780.0 2782.0 2.0 TR tr .000 2 2782.0 2784.2 2.2 69504 nil. .000 nil 69505 2784.2 2787.0 2.8 TR 3.0 TR tr .000 7 69506 2787.0 2790.0 3.3 TR-1 .000 10 69507 2790.0 2793.3 tr .000 26 69508 2793.3 2796.0 2.7 2 - 3 .001 .000 27 2796.0 2799.0 3.0 2 - 3 .001 69509 3.0 2 - 3 .001 .000 34 69510 2799.0 2802.0 .000 41 69511 2802.0 2805.0 3.0 2-3 .001 2 - 3 .001 .000 21 2805.0 2808.0 3.0 69512 TR tr .000 2 69513 2808.0 2811.0 3.0 .000 nil 69514 2811.0 2814.0 3.0 TR nil TR-1 tr .000 9 2814.0 2817.1 3.1 69515 .000 21 2817.1 2820.0 2.9 1-2 .001 69516 .000 26 69517 2820.0 2823.0 3.0 1-2 .001 .001 .000 23 69518 2823.0 2826.0 3.0 TR-1 3.0 TR tr .000 14 69519 2826.0 2829.0 .000 9 TR tr 69520 2829.0 2832.0 3.0 2832.0 2835.0 3.0 TR 1 tr .000 17 69521 3.0 TR-1 .001 .000 33 2835.0 2838.0 69522 .000 27 TR-1 .001 69523 2838.0 2841.0 3.0 3.0 1-2 .002 .000 57 2841.0 2844.0 69524 38 3.0 TR - 1 .001 .000 2844.0 2847.0 69525 41 69526 2847.0 2849.0 2.0 TR-1 .001 .000 TR tr .000 14 3.0 69527 2849.0 2852.0 TR .000 9 69528 2875.0 2878.0 3.0 tr .000 5 69529 2878.0 2881.0 3.0 TR tr TR nil .000 nil 3.0 69530 2881.0 2884.0 69531 2884.0 2887.0 3.0 1 - 2 tr .000 1.0 12 TR-1 .000 2887.0 2890.0 3.0 tr 69532 TR-1 .001 .000 38 69533 2890.0 2893.0 3.0 2893.0 2895.1 2.1 1 - 2 .008 .000 290 69534 .000 nil 1 - 2 nil 69535 2895.1 2897.3 2.2 255 69536 2897.3 2899.0 1.7 TR-1 .007 .000 2899.0 2902.0 3.0 TR-2 .001 .000 69537

Drill Hole AN03 47W

From To (ft)

2480.3 2523.4 Volcaniclastic quartz - contact into a short corridor distinguished by the presence of 5 to 15% irregular grey quartz-ankerite veins. The protolith continues to be medium to dark green, chloritic, moderately ankeritic, and variably contorted, silty to ashy volcaniclastics. The rocks are variably contorted with a predominate orientation of 60 to 70 degrees to the core axis. The quartz ankerite veins are watery to glassy in nature and contain fracture to margin controlled beige to off-white and earthy ankerite. Veins are irregular to contorted and discontinuous with a dominant orientation of 60 to 70 degrees to the core axis - they are crudely subparallel to the foliation. Veins are up to 11 cms in thickness and can occur in clusters with up to 30% veining over 30 cms. The quartz component is grey with milky to smoky tones. The veins tend to be barren but there are traces of disseminated pyrite and pyrite aggregates in the wallrock. A trace of chalcopyrite is noted in a more milky vein, hanging wall to a 2 cm mud at 2518.8 at 68 degrees. The lower contact is tentatively placed along a second gouged section over 10 cms at 68 degrees from 2523.1-2523.4 feet although grey veining to 2525.9. The two mud gouges are the only structural features noted in the system that are different than the prior rocks. Magnetic susceptibilities range from 0.22 to 0.37. The lower gouge is coded as:.

Geology

2523.1 2523.4 Fault gouge.

2523.4 2560.1 Volcaniclastic continue in fine grained chloritic volcaniclastics. As noted above, grey quartz veining persists into this sector footwall to the 10 cm gouge (to 2525.9 feet) - the gouge may be related to the presence of the veining. The chloritic volcaniclastics are fine grained with a mottled texture and are wispy to streaky altered with chlorite and sericite. This section is lighter in colour to medium grey green and green with beige to yellowish toned sections due to ankerite component +/- accessory sericite stronger alteration, particularly after 2529.4 feet. The foliation to layering is variably kinked to contorted with a dominant orientation at 60 degrees to the core axis. In local areas, the streaking with ankerite is sufficiently strong that the protolith is nearly obliterated. In addition to the increased ankerite, the quartz-ankerite veining returns to the more typical milky to greyish quartz with white ankeritic margins, averaging about 10%. Mineralization is weak but will reach up to 1-2% streaky to disseminated pyrite over a few cms - it is better developed in the more strongly altered sections in the lower part of the zone. Magnetic susceptibilities range from 0.15 to 0.38. The lower contact is sharply gradational into less altered rocks at 77 degrees.

2560.1 2573.4 Volcaniclastic - contact into a short more granular textured

ΑU AU1 AU2 Sample From To Len OZ/T 02/T PPB (ft) (ft) (ft) No. .010 .000 353 2 - 3 69538 2902.0 2905.0 3.0 .000 22 3.0 1.2 .001 69539 2905.0 2908.0 2908.0 2911.0 3.0 TR t.r .000 17 69540 .000 22 .001 69541 2911.0 2914.0 3.0 TR-1 69542 2914.0 2916.0 2.0 TR-1 .002 .000 55 .000 9 2.0 TR-1 t.r 69543 2916.0 2918.0 .000 69 2-3 .002 69544 2918.0 2920.5 2.5 2.5 1-2 .006 .000 190 2920.5 2923.0 69545 2923.0 2926.0 3.0 1 - 2 .001 .000 34 69546 .000 58 69547 2926.0 2929.0 3.0 TR-1 .002 22 1 - 2 .001 .000 2929.0 2932.0 3.0 69548 127 2.8 2 - 3 .004 .000 69549 2932.0 2934.8 .000 33 2934.8 2936.8 2.0 TR .001 69550 .052 .000 1788 2936.8 2939.6 2.8 2 - 4 69551 2.4 TR-1 .007 .000 235 69552 2939.6 2942.0 .000 182 69553 2942.0 2945.0 3.0 2-3 .005 2-3 .000 33 69554 2945.0 2948.0 3.0 .001 .000 34 2948.0 2950.9 2.9 2 - 3 .001 69555 nil 2950.9 2954.0 3.1 ΤR nil .000 69556 NIL nil .000 nil 69557 2954.0 2957.0 3.0 .000 8 2957.0 2960.0 tr 69558 3.0 .000 10 69559 2960.0 2963.0 3.0 TR tr .000 2 TR tr 69560 2963.0 2966.0 3.0 TR nil .000 nil 2966.0 2969.0 3.0 69561 2969.0 2972.2 3.2 TR nil .000 nil 69562 .000 9 TR tr 69563 2972.2 2974.6 2.4 .000 5 69564 2974.6 2977.8 3.2 TR tr 2977.8 2981.6 3.8 TR tr .000 3 69565 .001 .000 31 2.4 TR-1 69566 2981.6 2984.0 3.0 TR-1 .001 .000 46 59567 2984.0 2987.0 .000 24 2987.0 2990.0 3.0 TR-1 .001 69568 .000 646 69569 2990.0 2993.0 3.0 TR-1 .019 .001 .000 24 2993.0 2996.0 3.0 TR-1 69570 .004 .000 137 2996.0 2999.0 3.0 TR 69571 3.0 TR tr .000 12 69572 2999.0 3002.0 tr .000 10 3002.0 3005.0 3.0 TR 69573 .000 27 69574 3005.0 3008.0 3.0 TR .001 .000 22 2.9 NIL 69575 3008.0 3010.9

AU2

PPB

AU1

OZ/T

Geology

From To (ft)

No. (ft) (ft) (ft) % OZ/T

To

Sample

From

section of volcaniclastic. The rocks are medium grey green in colour with more beige toned ankeritic streaks to layers. There is a minor amount of fine grained, silty to ashy material with mottled textures intercalated with the granular textured rocks. The core is wispy to streaky altered with sericite and chlorite. Magnetic susceptibilities are low from 0.17 to 0.21. The rocks are poorly veined with about 5% ankerite and greyer quartz ankerite and are sparsely mineralized with up to trace to 1% disseminated to streaky pyrite. The foliation to layering in the system is at 75 to 85 degrees to the core axis. The lower contact is streaky altered at 69 degrees in contact with a bleached zone.

2573.4 2677.7 Carbonated Zone Volcaniclastic - contact into a much more highly bleached and carbonated corridor of volcaniclastics. The rocks vary from medium to pale grey green and greenish beige in colour with darker grey green to green portions, and, variable reddish to orangish staining. The protolith appears to be largely granular textured rocks that are very highly carbonated, with only minor silty material. There is one, soft, chloritic, very fine grained section of dull green altered silty to ashy material at the top of the section from 2577.6-2580.0 at 62/63 degrees. Most of the rocks in the system are highly overprinted to nearly obliterated by the strong alteration +/- staining. The rocks at the top of the are soft aside from some dull orangish beige section silicification associated with isolated and quartz-ankerite veining. A patchy silicification is first noted in the system at 2594.3, with a semicontinuous zone of silicification to silica flooding from 2601.5 to 2609.6, and, more focussed silicification to silica flooding related to quartz-ankerite veining after 2637.3. The silicification to appears directly related to accessory flooding fracturing with ankerite and quartz. It is dull orangish to beige in colour with a variable input from sericite. The more reddish staining tends to occur adjacent to the silica flooded parts and is more strongly magnetic.

2573.4 2677.7 Carbonated Zone Volcaniclastic (continued). Local traces of disseminated magnetite are found in the reddish stained sections. Magnetic susceptibilities range from 0.07 to 37.1 most of the lower values cue with the bleached and altered rocks (less than 0.50), with values up to 9.01 in the reddish toned rocks. There is one isolated reading of 37.1 at 2645.6 in dark green, fractured volcaniclastics sitting between orangish stained and silica flooded patches, and, one reading of 17.2 at 2676.5 in streaky altered volcaniclastics with magnetite, just above the lower contact. Veining is highly variable but most of the veins in the more focussed, silica flooded zone, after 2637.3, are at shallow (less than 40 degrees) angles to the core axis. Veins are grey to milky quartz-ankerite. The silica flooded patches are also the more

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From To (ft)

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

strongly mineralized parts of the system with up to 5.7% disseminated to fracture controlled pyrite over a few cms. The stronger, focussed silicification and staining around veining deteriorates after 2664.5 although the rocks remain relatively siliceous down to 2675.6. The lower contact zone is variably bleached with patchy silicification from 2675.6-2677.7. The lower contact placement is tentative at 69 degrees, given patchy silicification in the lower contact zone and, although more weakly expressed, in the adjacent rocks.

- more granular textured 2677.7 2695.6 Volcaniclastic return to volcaniclastics that are medium to dark grey green in colour. The package is not as strongly bleached and silicified as the prior corridor but patchy silicification does persist into this sequence. The rocks are wispy to streaky altered with sericite and chlorite, and, there is a local crudely developed gritty texture. Fragments are at a premium but isolated foreign fragments to 5 mms in size are noted in addition to blebs and boudins(?) / fragments of vein material. The patchy silicification is accompanied by weak reddish to orangish and, an erratic distribution of disseminated magnetite such that susceptibilities are erratic from 0.11 to 92.3 - most readings are less than 0.50. The foliation to layering is more consistent in this sector at 70 to 80 degrees Veining averages less than 5% axis. to the core quartz-ankerite stringers that are irregular but roughly subparallel to the foliation although the associated staining and alteration is patchy and irregular. Mineralization is best developed in the altered sections next to veining with up to 2-3% disseminated to fracture controlled material over a few cms. The lower contact is streaky altered and a little irregular at 73 degrees.
- 2695.6 2712.9 Volcaniclastic contact into a short section of paler coloured volcaniclastics with fairly numerous fragments to a cm in size. The volcaniclastic is medium grey green to grey in colour with a well developed granular to gritty exture. The core is wispy to streaky altered with sericite +/- chlorite. Fragments are relatively common but the vast majority are either sericitic or vein material (with or without calcite) such that the fragmental character may be more tectonic than primary. The wispy to streaky character of the alteration is at variable angles to the core axis - most are shallow and less than 40 degrees. The core is weakly to moderately ankeritic but some of the fractures and vein fragments are calcitic in this sector. Magnetic susceptibilities are low and consistent from 0.11 to 0.18. The section is weakly fractured to veined with less than 5% calcite +/- quartz, and, the rocks are mineralized with up to trace to 1% streaky to disseminated cubic pyrite. The lower contact is sharp with streaky alteration (in the the adjacent unit) at 39 degrees.

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From To (ft)

Geology

Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

contact into finer grained silty to ashy 2712.9 2730.3 Volcaniclastic material with a minor amount of intercalated granular textured units. The rocks are darker in colour again from medium to dark grey green and green with a stronger chlorite component. The rocks are fine grained with a local mottled texture and are streaky altered with chlorite +/- sericite. The foliation to layering / streaky alteration is locally contorted in this segment but averages 60 to 70 degrees to the core axis. Magnetic susceptibilities are low from 0.17 to 0.32. The package is weakly to moderately reactive to the presence of ankerite but is again weakly fractured with less than 5% calcite +/- quartz stringers that are generally subparallel to the foliation. Mineralization is weak but there are traces to 1% pyrite often associated with the fractures. The lower contact is sharp at 75 degrees.

2730.3 2756.9 Volcaniclastic silicified - return to the paler coloured, textured volcaniclastics with fairly numerous fragments to a cm in size. As in the prior unit, from 2695.6 to 2712.9, the vast majority of the fragments are either altered and sericitic or vein material although isolated foreign fragments are noted in this area. This sector is interesting due to the presence of two, much more strongly silicified segments from 2736.2 to 2742.8 at 38/42 degrees, and, 2755.1 to 2756.9 at 27/54 degrees - lower contact irregular with infractured carb and ultramafic along the core axis over 13 cms. The lower contact feature appears to be a silicified, fragmental volcaniclastic, while no fragments are noted in the upper section. The upper section is very hard and fine grained with a well mosaic texture from quartz and looks like a potential unit of chert - the upper contact is sharp, lower contact is subtle into more sericitic, partly silicified volcaniclastics that also exhibit a mosaic texture from grains of quartz. Both silicified sections are more brownish toned. The volcaniclastic varies from pale to dark grey green with local more yellowish tones from sericite, and, the dull beige grey brown silicified sections. There is accessory bleaching with sericite and a moderate ankerite component in the system from 2733.9-2735.9 although the rocks are also weakly fractured with calcite in this interval. This section and the lower silicified contact are the only ankeritic parts of the zone - the balance of the system is weakly to moderately calcitic.

2730.3 2756.9 Volcaniclastic silicified (continued). The rocks are weakly fractured with calcite +/- quartz (average about 5%). The volcaniclastics are locally well mineralized with up to 3-5% disseminated to streaky and fracture controlled material over a few cms. Magnetic susceptibilities are most variable in the upper silicified section from 0.08 to 1.04, versus 0.07 to 0.30 in the balance of the system. As previously noted, the

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

lower contact is infractured with ankerite and carbonated ultramafic material along the core axis over 13 cms - the foliation in the silicified lower contact varies from 55 to 70 degrees.

- 2756.9 2762.0 Carbonated Zone Carbonated Ultramafics contact into a short, highly contorted section of ankeritic carb rocks with an component. The ankerite occurs in numerous ultramafic close-packed blebs that will coalesce into discontinuous streaks to layers in a dark bluish green to blue black, soft matrix/gangue of ultramafic material. The ankerite is off-white to a pale earthy grey beige colour. The ultramafic component is more obscure after 2760.7 feet where the matrix component is greener to brownish in tone with only a couple of softer, dark bluish green fractures - the protolith in this segment is more indicative of some of the highly carbonated to carbonate invaded silty to ashy units. The lower contact is not as highly contorted after 2761.5 and is moderately foliated at 60 to 70 degrees. Magnetic susceptibilities in the section are low from 0.22 to 0.36. There is 5 to 10% irregular quartz-ankerite veining in the system, but trace only fine points of pyrite. The lower contact is sharp and foliated at 67 degrees.
- 2762.0 2793.3 Volcaniclastic contact into fine grained volcaniclastics once more. In this sector, the rocks range from having a very fine, granular texture to more mottled in nature from the chlorite and ankerite alteration. Adjacent to the carb zone, the rocks are weakly silicified over 20 cms, becoming softer and more strongly chloritic by 2765 feet. The core varies from medium to dark grey green in colour and has a weakly developed foliation at 60 to 70 degrees to the core axis. At 2784.2 (at 28 degrees), the core becomes more highly mottled with ankerite and becomes marginal to a carb rock in appearance with fine, granular textured blebs to patches that can coalesce into streaks to crude layers, surrounded by dull greenish to brownish chlorite alteration - no ultramafic material is noted in this passage. The strongly carbonated rock ends along an irregularly fractured and partly bleached zone with ankerite and quartz between 2790.0 and 2791.3 at 71/68 degrees. It is followed by chloritic, foliated, silty volcaniclastics to 2791.5. A siliceous, foliated, granular textured volcaniclastic inclusion is found from 2791.5 to 2792.0 at 74/63 degrees above a chloritic, brecciated to sheared and highly disrupted zone of silty volcaniclastic amongst broken core at the lower contact. Only a trace of mud is noted amongst the broken core at 2793.2 at 54 degrees - a wider mud seam is found in the unit that follows.
- 2762.0 2793.3 Volcaniclastic (continued). Aside from the siliceous, granular textured, volcaniclastic inclusion (?) from 2791.5 to 2792.0 where there is 2-3% disseminated to fractured controlled

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

pyrite, the rocks are sparsely mineralized with up to trace to 1% disseminated pyrite and coarser pyrite aggregates. The irregularly veined section from 2790.0 to 2791.3 hosts about 70% quartz-ankerite, otherwise, the sequence is rather poorly veined with 5 to 10% quartz ankerite, with some calcite noted in the system from 2777.7-2783.2. Magnetic susceptibilities are low, from 0.14 to 0.36. The lower contact is poorly defined amongst the blocky to broken core but appears to be at 65 degrees.

2793.3 2950.9 Volcaniclastic - contact into another segment of the paler grey, more siliceous volcaniclastics. The rocks vary from medium to pale grey and grey beige in colour and are sericitic wisps to streaks and isolated fractures. There are scattered fragments in the system to a cm in size with a mix of sericite altered, vein material and foreign fragments fragments are at a premium. The matrix component is granular to gritty textured and is variably speckled with quartz grains. The upper part of this section is darker in colour with stronger chlorite alteration and blocky to broken core up to a 5 mm mud seam at 2794.7 at 49 degrees. The core is also blocky to broken from 2808 to 2813.4 ending along 30 cms of badly broken core with traces of mud at 35 degrees to the core axis (orientation is unclear). The first silty material occurs in the system after the broken core from 2813.4-2814.0 - upper contact broken, lower contact irregular and broken averaging 25 (??) degrees. The silt to ashy component is very fine grained and varies from dull grey green to dull yellowish grey green and putty coloured with local more yellowish tones. this first silty component at 2813.4, the paler siliceous volcaniclastics are intercalated with silty horizons from a few cms to a couple of meters in core length. The largest corridor with more continuous silty to ashy material from 2865.8 to 2872.7 at 18/36 degrees, with intercalated silty material from 2863.2-2865.8 at 18 degrees, and, silts threading the core axis from 2872.7-2876.4 at 36/11 degrees.

2793.3 2950.9 Volcaniclastic (continued). There is no clear indication of top directions from the intercalated material although the character of the two units is distinctly different. With the appearance of the silty units core angles become better defined, varying from 10 to 65 degrees - average about 55 degrees, but with numerous shallow angle contacts and some undulating to contorted layering. No fragments are noted in the silty to ashy segments and fragments are very much at a premium in the siliceous volcaniclastics after 2813.4. The volcaniclastics are weakly to moderately ankeritic with the first calcite appearing in the system at 2799.3. Between 2819.6 and 2860.2, the rocks are more strongly calcitic with calcite +/- quartz also as the dominant vein material. Veining in the system averages less than 5% grey to smoky quartz +/-

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

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either ankerite or calcite. By far the largest vein/veining in the system is from 2897.9 to 2898.7 at 62/66 degrees - milky to smoky quartz with internal, grungy grey to off-white patches of fracture controlled ankerite with dull yellow sericite and traces of pyrite. Mineralization is best developed at the top of the unit and in the granular textured volcaniclastics with up to 2 3% disseminated to streaky and fracture controlled material. Only four splashes of chalcopyrite are noted-all in a 2 mm calcite vein at 2848.5, at 65 degrees. Magnetic susceptibilities are low from 0.05 to 0.28 with gnerally weaker values in the siliceous volcaniclastics.

2793.3 2950.9 Volcaniclastic (continued). Just above the wider than average veined section from 2897.9-2898.7, the core is blocky to broken with a trace of grit to potential gouge from 2893.8-2895.1. Hanging wall to the section with broken core and gouge, there is accessory sericite alteration and veining from 2893.2 to 2893.5 with irregular contacts at 66/69 degrees. Accessory veining is also found in two sections in the lower part of this package from 2918.6-2920.2 at 65 degrees (50% veining), and, 2935.0-2939.6 at 58/52 degrees (40-50% veining). The upper zone is bleached and sericitic, while the lower zone has a greyer section with grungy ankerite alteration to 2937.2 before the rocks become more bleached and sericitic. Pyrite mineralization is slightly elevated in the sericitic to bleached segments. There are further traces of mud at 2927.7 - 2 mms at 67 degrees, and, at the base of a section of blocky core from 2942.1-2943.4 - mud slip at 72 degrees. Approaching the lower contact, the volcaniclastics grade darker in colour and more chloritic after 2947, becoming more sericitic and fractured with quartz from 2949.4, hanging wall to a brecciated to sheared section with a trace of gouge at the lower contact from 2950.4 to 2950.9 - lowest part along a 2.5 cm ankerite-quartz vein with a trace of mud at the lower contact at 51 degrees.

2950.9 2981.6 Volcaniclastic - footwall to the narrow fault breccia, the volcaniclastics are darker in colour again, varying from dark grey green to dark green with erratic dull yellow ochre wisps of sericite and some lighter beige toned rocks with a stronger ankerite component. The rocks are fine grained to finely granular textured with none of the gritty or mosaic textures developed. There are also some of the more strongly streaked to foliated ankeritic sections again in this zone, where numerous close-packed blebs of off white ankerite can coalesce into streaks over narrow corridors with a well developed foliation that is locally contorted - average foliation at 55-65 degrees. The matrix to the ankeritic corridors is dark and chloritic - no ultramafic noted. Sections include: 2963.9-2964.9 at 62/55 degrees (lower contact contorted); 2972.2-2974.0 at 57/69 degrees, and; 2976.4-2977.8 at 58

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

degrees. There is some blocky to broken core in the system from 2974.6-2976.0 (no gouge noted), at 2981.3 over 2 cms with a trace of mud, plus there is a narrow mud slip at the lower contact at 61 degrees. Veining averages about 10% ankerite +/-quartz at variable angles to the core axis - several veins are contorted with the host rocks. Mineralization is weak, averaging trace pyrite with up to trace to 1% disseminated material in the wallrocks to some of the contorted veins. Magnetic susceptibilities are low from 0.16 to 0.27. The lower contact is along a mud slip into more granular textured rocks at 61 degrees.

granular textured 2981.6 3010.9 Volcaniclastic contact into volcaniclastics once more. The granular to gritty texture is moderately well developed at the top of the section but the rocks become more strongly mottled with depth approaching a fault zone at the lower contact. The rocks vary from medium to pale grey green in colour with more yellowish to beige casts related to the presence of accessory sericite and ankerite. There is one of the foliated and ankerite streaked zones with a chloritic matrix from 2991.3-2992.7 at 44/40 degrees. This section has some soft, dark bluish green, potential ultramafic along fractures in the basal 20 cms, and, there is accessory sericite, bleaching and silicification over 12 cms in the footwall volcaniclastic. A trace of grit to gouge is noted within 7 cms of broken core at 3000.0 (orientation unclear), and, along a 2 mm mud slip at 3005.0 at 65 degrees. No other gouge is noted until the lower contact, although the core is blocky to broken after 3000 feet. The volcaniclastics contain up to 2-3% disseminated to streaky and fracture controlled pyrite over a few mms. Veining averages less than 5% ankerite +/- quartz. Magnetic susceptibilities are low from 0.09 to 0.20. The lower contact is broken with gouge - orientation unclear.

3010.9 3027.1 FAULT ZONE CARBONATED ULTRAMAFICS

Contact into a fault zone with associated ultramafic rocks and, at the top of the system, a bleached and highly fractured felsic dyke to 3015.0. The rocks are broken to 3016, followed by blocky to broken core to 3018.7. There does not appear to be any lost core in this interval, although footages are difficult to validate in the broken core. Strong gouge is noted at the upper contact over 9 cms at 46 (??) degrees (orientation uncertain), at 3013.5 - 2 cms at 49 degrees, and, amongst broken core from 3015.0 to 3016.0 where the orientation is again unclear. There are four, dark green to brownish green, foliated to brecciated sections of probable relict volcaniclastics in the system at 3019.2-3020.0 at 74/79 degrees; 3022.3-3022.7 at 63/58 degrees; 3023.0-3024.8 at 48/62 degrees, and; at 3026.8 - 5 cms at 52 degrees. The ultramafic component is black to blue black in colour. It becomes highly carbonated to carbonate invaded after 3020.0 with off-white to earthy, beige toned ankerite. The carbonated ultramafic to carb rock is streaked to

nil	.000	nil	TR-1	2.1	3013.0	3010.9	69576
3	.000	tr	TR	2.0	3015.0	3013.0	69577
nil	.000	nil	TR	3.0	3018.0	3015.0	69578
2	.000	tr	TR	2.0	3020.0	3018.0	69579
nil	.000	nil	NIL	2.3	3022.3	3020.0	69580
nil	.000	nil	TR	2.5	3024.8	3022.3	69581
nil	.000	nil	NIL	2.3	3027.1	3024.8	69582

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crudely foliated at 50 to 60 degrees to the core axis.

The felsic dyke at the top of the system is pale beige to pinkish in colour and is very fine grained. Being within the main zone of broken core, the dyke is highly fractured to shattered with ankerite +/- quartz - some of the fractures being pitted to vuggy. The rock is variably bleached such that locally the dyke is difficult to distinguish from staining associated with veining. The dyke contains trace to 1% disseminated to fracture controlled pyrite. All of the rocks in the system are weakly to nonmagnetic with susceptibilities from 0.09 to 0.37. There is trace only pyrite in the volcaniclastic remnants, and, negligible pyrite in the carbonated ultramafics. In addition to the ankerite invasion in the ultramafic rocks, there is roughly 10% quartz-ankerite veining that is crudely parallel to the foliation. The lower contact of the system is foliated at 58 degrees.

3027.1 3230.6 VOLCANICLASTIC

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(ft)

Return to a volcaniclastic package containing both silty to ashy members and more granular textured units. As before, the variations in the package are best addressed under a sequence breakdown as:.

the fault zone, the 3027.1 3083.9 Volcaniclastic footwall to volcaniclastic sequence is an interesting mix of silty to ashy and more granular textured rocks. Units consist of very fine foliated, silty members, and, lighter coloured, granular to mosaic textured members with quartz grains common, plus finely granular to streaky altered segments that appear to be transitional between the two other units. Variations are on a scale of a few cms to 2.5 meters. The silty members are normally dark green to dark grey green in colour, while the more coarsely granular textured rocks range from medium to pale grey green and grey with quite variable bleaching and staining to beige, orangish and yellowish tones related to variations in ankerite, iron and to a lesser extent sericite +/- fuchsite. The granular textured rocks are more likely to be bleached to stained while the silty members, in this environment, tend to develop foliated to streaky, chloritic and ankeritic sectors most often at contacts with the granular textured units. These foliated portions are comparable to the development of ankerite blebs that coalesce into streaks within a chloritic (+/- ultramafic material) matrix seen earlier in the drillhole. The largest section, from 3067.4-3074.0 at 52/68 degrees, is typical with a dark green, very fine grained to finely mottled and granular textured central zone, and, foliated margins over 6 cms and 30 cms respectively that are in contact with granular textured rocks.

3027.1 3083.9 Volcaniclastic (continued). Magnetic susceptibilities range from 0.10 to 14.9 - higher readings (> 2) are invariably tied to the orange stained, granular textured zones which locally contain disseminated magnetite. Aside from the streaking with ankerite, the package contains 5-10% irregular quartz-ankerite

.001 .000 26 3027.1 3030.0 2.9 TR-1 69583 nil .000 nil 69584 3030.0 3033.1 3.1 TR-1 2.9 TR tr .000 3 69585 3033.1 3036.0 .001 .000 28 69586 3036.0 3039.0 3.0 .000 nil 69587 3039.0 3042.0 3.0 TR nil .000 nil 3042.0 3045.0 3.0 TR nil 69588 3.0 TR-1 tr .000 14 69589 3045.0 3048.0 22 69590 3048.0 3051.0 3.0 TR-1 .001 .000 TR-1 .001 .000 23 3051.0 3054.0 3.0 69591 TR-1 .000 15 69592 3054.0 3056.7 2.7 t.r nil 69593 3056.7 3060.0 3.3 TR nil .000 TR tr .000 7 69594 3060.0 3063.0 3.0 7 3063.0 3066.0 3.0 TR tr .000 69595 .000 15 69596 3066.0 3069.0 3.0 TR tr TR .000 nil 69597 3069.0 3072.0 3.0 nil 3072.0 3074.0 2.0 TR tr .000 2 69598 TR .000 15 69599 3074.0 3077.0 3.0 tr 3077.0 3080.0 3.0 TR - 1 nil .000 nil 69600 3080.0 3082.0 2.0 TR-1 tr .000 15 69601 TR .002 .000 58 69602 3082.0 3083.9 1.9 2-4 .014 .000 463 69603 3083.9 3087.0 3.1 3.0 2 - 3 .018 .000 634 69604 3087.0 3090.0 69605 3090.0 3093.0 3.0 2 - 3 .015 .000 513 3.0 2 - 3 .008 .000 267 3093.0 3096.0 69606 .012 .000 420 69607 3096.0 3099.0 3.0 2 - 4 .000 341 69608 3099.0 3102.0 3.0 1 - 2 .010 2 - 3 .010 .000 339 3.2 69609 3102.0 3105.2 69610 3105.2 3108.0 2.8 TR-1 t.r .000 12 TR-1 .001 .000 24 69611 3108.0 3111.0 3.0 .001 .000 19 69612 3111.0 3112.9 1.9 TR 3112.9 3115.0 2.1 NIL tr .000 2 69613 TR .004 .000 134 69614 3115.0 3117.1 2.1 48 69615 3117.1 3119.0 1.9 1-2 .001 .000 69616 3119.0 3121.0 2.0 1 - 2 .003 .000 115

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From To (ft)

Geology

veining that is often discontinuous to contorted, but commonly follows the foliation to layering that varies from 35 to 65 degrees (average 55 to 60 degrees). The granular textured members are the better mineralized parts of the system with up to 1-2% disseminated to streaky and fracture controlled material over a few cms. The lower contact is along one of the foliated, strongly carbonated silty segments from 3082.7-3083.9 at 57/50 degrees.

- 3083.9 3112.9 Altered contact into a more highly altered section of volcaniclastics. The rocks are medium to pale yellow grey in colour with some local more beige tones from strong ankerite. The core is moderate to strongly ankeritic and is wispy to streaky altered with sericite. The protolith is an altered variation of the granular to gritty textured rocks with variably developed mosaic textures and grains of quartz. Foreign fragments are locally visible in the system to a cm in size, but fragments are quite isolated overall. Some of the streaky, foliated, ankeritic, silty to ashy rocks are found in this segment after 3105.2 feet as: 3105.2-3105.7 at 68/74 degrees: 3106.4-3107.3 at 78/68 degrees; 3108.8-3109.4 at 67/70 degrees, and; at 3112.3 - 4.4 cms averaging 53 degrees. The appearance of the highly ankeritic and foliated streaky segments marks a transition back to intercalated granular textured and silty units after 3112.9. The rocks are more weakly mineralized after the appearance of the silty units, averaging 2-3% streaky to disseminated and fracture controlled pyrite at the top of the system. The rocks are weakly to moderately foliated at 60 to 70 degrees to the core axis and are irregularly veined with 5-10% quartz-ankerite (best veining from 3091.9-3093 at 35% veins at 31 to 60 degrees). Magnetic susceptibilities are low from 0.05 to 0.19. The lower contact is sharp with veining at 70 degrees.
- 3112.9 3184.7 Volcaniclastic return to a sequence of intercalated silty to ashy and more granular textured volcaniclastics that are very similar to the above section from 3027.1-3083.9. The package consists of dark green, very fine grained silty to ashy members, much lighter coloured, granular textured units with variably developed mosaic textures and grains of quartz, and, the transitional, finely granular material that looks like a finer grained, more chloritic to weakly altered version of the granular textured rocks. As before, the granular textured units tend to be more strongly altered and bleached with sericite and ankerite, and, are variably stained orangish from iron. The silty members continue to have more highly foliated to streaked and ankeritic contact zones with the granular textured rocks. Units are on a scale of a few cms to 2.5 meters in size. Magnetic susceptibilities are only slightly elevated to 1.08 in the orange stained rocks on a range of 0.08 to 1.08. The paler, (pale grey green to yellow grey green

Sample	From	To	Len	PY	AU	AU1	AU2
No.	(ft)	(ft)	(ft)	왐	OZ/T	OZ/T	PPB
69617	3121.0	3124.0	3.0	ΤŔ	tr	.000	17
69618	3124.0	3127.0	3.0	TR	tr	.000	13
69619	3127.0	3130.0	3.0	NIL	tr	.000	3
69620	3130.0	3133.0	3.0	TR	tr	.000	5
69621	3133.0	3136.0	3.0	ΤŔ	nil	.000	nil
69622	3136.0	3139.0	3.0	TR	nil	.000	nil
69623	3139.0	3142.0	3.0	TR	tr	.000	5
69624	3142.0	3145.0	3.0	TR	nil	.000	nil
69625	3145.0	3148.0	3.0	TR	nil	.000	nil
69626	3148.0	3151.0	3.0	TR	tr	.000	3
69627	3151.0	3154.0	3.0	TR	nil	.000	nil
69628	3154.0	3156.0	2.0	TR	nil	.000	nil
69629	3156.0	3158.4	2.4	TR	tr	.000	14
69630	3158.4	3161.0	2.6	TR-1	.001	.000	29
69631	3161.0	3164.0	3.0	TR-1	tr	.000	7
69632	3164.0	3165.8	1.8	TR-1	tr	.000	15
69633	3165.8	3169.0	3.2	TR	tr	.000	2
69634	3169.0	3172.0	3.0	TR	tr	.000	3
69635	3172.0	3175.0	3.0	TR-1	tr	.000	14
69636	3175.0	3178.0	3.0	TR-1	nil	.000	nil
69637	3178.0	3181.3	3.3	1-2	.001	.000	27
69638	3181.3	3184.7	3.4	TR	tr	.000	2
69639	3184.7	3187.6	2.9	TR	nil	.000	nil
69640	3187.6	3190.0	2.4	TR	.001	.000	31
69641	3190.0	3192.8	2.8	TR	tr	.000	9
69642	3192.8	3196.0	3.2	TR	tr	.000	14
69643	3218.0	3221.0	3.0	TR-1	nil	.000	nil
69644	3221.0	3224.6	3.6	TR-1	.004	.000	153
69645	3224.6	3227.5	2.9	TR-1	.001	.000	28
69646	3227.5	3230.6	3.1	1-2	.001	.000	21

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From To Geology (ft) (ft)

Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

with more beige to orangish sections) granular textured sections are the better mineralized parts of the system with up to 1-2% disseminated to streaky and fracture controlled pyrite, versus trace amounts in the finely granular and silty sections. Veining averages 5-10% irregular quartz-ankerite and tends to prefer the fine grained, silty members. The rocks are variably contorted with a dominant foliation at 50 to 65 degrees. The lower contact is subtle into more strongly magnetic rocks at 55 degrees.

3184.7 3230.6 Volcaniclastic Contact Zone - the contact zone of this volcaniclastic package is more highly altered with chlorite and is variably carbonated with ankerite and calcite. The protolith appears to be the same as previous with intercalated granular textured and silty to ashy units but the rocks are more strongly altered with chlorite, are more deformed, and, commonly have mottled textures from the strong alteration such that the definition of units is much more obscure in this sector. The rocks vary from dark grey green to dark green in colour with some of the more granular textured sections being dull grey beige to brownish beige in colour with variable brick red to orangish tones. The rocks are moderately foliated with local undulating to more contorted sections at 20 to 55 degrees to the core axis. Magnetic susceptibilities are strongest in the contact zones with readings of 0.14 to 31.3 from 3184.7 to 3192.8, and, 6.08 to 16.7 from 3229.6 to 3230.6 at the lower contact, versus 0.12 to 4.41 (with most under 0.30), over the balance of the zone. The initial part of the sequence is ankeritic with the last of the strongly foliated and ankeritic style of silty member from 3187.6 to 3188.7 at 41/74 degrees. Calcite first appears in the system at 3192.8 with more pervasive calcite noted between 3199 and 3121 feet. The rocks are weakly to moderately reactive to the presence of ankerite after 3121 feet, with a weak to moderate speckling from calcite.

3184.7 3230.6 Volcaniclastic Contact Zone (continued). Approaching the lower contact with ultramafic, a sporadic fracturing with ultramafic material is first noted at 3221.4 feet. Veining in the system is weak, averaging less than 5%, often discontinuous, quartz-carbonate veins. Mineralization is strongest again in the more granular textured portions (with/without quartz grains), reaching up to 1-2% disseminated to streaky and fracture controlled material. At 3204.6 feet, there is a 7 cm fragment/dykelet of coarse grained feldspar porphyry just cutting the core axis. Isolated chloritic lenses to fragments and fragments/boudins of vein material are found in the system but fragments are at a premium and foreign fragments appear to be absent. The lower contact is foliated and partly amphibolitized at 45 degrees.

	Pa						
Sample No.	From (ft)	To (ft)	Len (ft)	PY %	AU OZ/T	AU1 OZ/T	AU2 PPB
69647 69648 69649	3233.0	3233.0 3235.0 3237.7	2.4 2.0 2.7	TR TR TR	tr tr .005	.000	3 9 184

2.3 TR-1

3.0 TR-1

3.0 TR-1

1 - 2

TR

TR

TR

TR

3.0

3.0

3.0

3.0

3.0

3.0

2.1 TR-1

69650

69651

69652

69653

69654

69655

69656

69657

69658

69659

3237.7 3240.0

3240.0 3243.0

3243.0 3246.0

3246.0 3249.0

3249.0 3252.0

3252.0 3255.0

3255.0 3258.0

3286.0 3289.0

3289.0 3292.0

3292.0 3294.1

nil

.001

.005

.001

nil

tr

.001

nil

tr

tr

.000

.000

.000

.000

.000

.000

.000

.000

.000

.000

nil

26

15

19

4

29

nil

159

nil

3230.6 3237.7 ULTRAMAFIC

(ft)

From To (ft)

> Contact into another section of ultramafic rocks. The ultramafics are dark bluish green to black in colour with patchy brownish alteration to amphibolitization. The rocks are fine grained and soft with a moderate to well developed foliation at 30 to 55 degrees to the core axis. The core is fractured to streaked with off white to greyish lenses, patches and streaks of ankerite but contains only a couple of narrow, greyish to milky, irregular quartz-ankerite stringers. Magnetic susceptibilities are low from 0.11 to 0.29. The ultramafic contains local, slightly harder, brownish to green alteration patches that may reflect relict sediments - these patches tend to be the better mineralized parts of the system with up to trace to 1% disseminated pyrite, with very minor to negligible pyrite in the black ultramafic. Both contacts are undulating at 45/67 degrees.

Geology

3237.7 3294.1 VOLCANICLASTIC

Contact into volcaniclastics once more. This segment sits between two ultramafic units such that both contacts are more strongly cooked and altered to brownish and reddish tones - over 44 cms at the upper contact and 15 cms at the lower contact. Patchy brownish to reddish tones are noted below 3292.2 feet, up to the cooked lower contact. Magnetic susceptibilities are elevated at the contact zones from 3.02 to 31.0 at the upper contact, and, 3.04 to 39.0 at the lower contact (from 3292.2 to 3294.1). Magnetics in the balance of the system are generally low, with a range of 0.11 to 18.5 the higher values associated with traces of disseminated magnetite that are often accompanied by reddish toned rocks. The protolith in this sector is a mix of silty and granular textured rocks as before but with a very weak expression of the paler coloured, granular textured portions, and, neither the mosaic textures nor the quartz grains are developed. The rocks are medium to dark grey green and green in colour with weak more beige tones from accessory ankerite and local reddish casts related to iron. The foliation to layering varies from 25 to 70 degrees to the core axis (average 55 to 65 degrees), and is locally undulating to contorted.

The upper contact unit to 3247.0, and intermittently to 3254.7, contains numerous shreds to lenses and lozenges of chloritic and vein material to 5 cms in size. These potential fragments appear to be a function of deformation rather than a tuffaceous unit since fragments are nonexistent in the balance of the section, and, there are no certain foreign fragments in the system. The first contact unit is also weakly to moderately calcitic below the brownish altered, cooked and ankeritic upper contact zone over 44 cms (to 3238.9 feet). Calcite along streaks to fractures is present from 3238.9 to 3252.0, and, 3266.6 to 3294.1 with a stronger ankerite component in the central part of the zone from 3252.0 to 3266.6. The core is weakly veined with less than 5% irregular, quartz-carbonate stringers. The rocks are mineralized with up to 1-2% disseminated to streaky and fracture controlled pyrite over a few cms. The lower contact zone is brownish altered, cooked and calcitic over 15 cms - lower contact irregular, averaging 47 degrees.

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3.0

3.0

3.0

1.8

3.2

2.6

2.4

3.0

3.0

3.0

2.5

NIL

TR

TR

TR

TR-1

TR-1

NIL

TR

NIL

TR

TR

nil

nil

.001

.001

.001

nil

tr

tr

.001

.003

3303.0 3306.0

3306.0 3309.0

3309.0 3312.0

3312.0 3313.8

3313.8 3317.0

3317.0 3319.6

3319.6 3322.0

3322.0 3325.0

3325.0 3328.0

3328.0 3331.0

3331.0 3333.5

69663

69664

69665

69666

69667

69668

69669

69670

69671

69672

69673

2

nil

nil

31

23

21

5

5

29

nil

.000

.000

.000

.000

.000

.000

.000

.000

.000

.000

.000

From	To	Geology	Sample	From	To	Len	PY	AU	AU1	AU2
(ft)	(ft)		No.	(ft)	(ft)	(ft)	%	OZ/T	OZ/T	PPB
3294.1	3333.5	ULTRAMAFIC Contact into a wider package of ultramafic rocks. The protolith is black to blue black, very fine grained, soft, soapy and unctuous, and, contains some	69660 69661 69662	3297.0	3297.0 3300.0 3303.0		NIL TR TR	nil nil tr	.000	nil nil 15

blue black, very fine grained, soft, soapy and unctuous, and, contains some patchy brownish alteration and amphibolitization in addition to a few remnants of volcaniclastics. There is only a minor amount of faulting in the ultramafic at 3296.3 3 cms broken and gouged at 73 degrees; 3308.2 1 cm gouged and broken at 64 degrees, and; at 3309.2 5 mms gouge at 71 degrees. The ultramafic is highly streaked to brecciated and contorted with ankerite streaks to lenses and patches. In the upper part of the system, to 3305.6, the ultramafic is more highly streaked to fractured with off-white to pinkish calcite over a seemingly older (??) ankerite component. Calcite weakens with depth as streaks to a weak refracturing, and, is essentially absent after 3329.5.

There is one wider inclusion / remnant of volcaniclastics in the sequence from 3313.8-3319.6 with irregular contacts at 64/33 degrees, along with a handful of smaller inclusions with irregular contacts at 3312.6-3313.3 at 71/79 degrees; 3329.0-3329.6 at 43/47 degrees, contacts converging, and, this unit is more orange stained and siliceous; at 3330.4 - a 6 cm patch averaging 72 degrees; 3331.1-3332.1 at 43/49 degrees, and; an 8 cm fragment volcaniclastics at 3333.3 in the brecciated lower contact. The volcaniclastic remnants are dull brownish green to dull green in colour with weak reddish casts. Aside from the members below 3330.4, the volcaniclastics are moderately streaked to fractured with calcite and are mineralized with up to 1-2% finely disseminated to fracture controlled pyrite. Magnetic susceptibilities in the volcaniclastics are elevated from 1.60 to 24.1 versus 0.20 to 3.67 in the ultramafics. The ultramafics are much more sparsely mineralized with trace only pyrite. The lower contact of the ultramafic package is irregular and partly brecciated, averaging 68 degrees to the core axis.

3333.5 3557.0 VOLCANICLASTIC

Footwall to the ultramafic package, the volcaniclastics are quite strongly overprinted with carbonate and chlorite such that textures are commonly mottled and the protolith is somewhat obscured. The protolith is weakly to moderately reactive to the presence of ankerite but calcite is the dominant carbonate mineral as discontinuous streaks to fractures, lenses and gashes that are usually stained pinkish to orange in the top of the section (to roughly 3383.1). Calcite fractures to streaks are at all angles to the core axis and are locally contorted as the variable foliation. The rocks are dull brownish green to reddish green in colour at the top of the system, grading to medium green and grey green across the interval 3380.0-3383.1. The greener coloured rocks after 3383.1, exhibit a more consistent foliation at 55 to 65 degrees to the core axis but the rocks remain highly deformed and strongly overprinted with chlorite and calcite to 3408.4. The rocks are not reactive to the presence of calcite over 18 cms at the upper contact - first calcite noted at 3334.1 feet. The reddish to brownish toned volcaniclastics at the top of the system are also more erratically magnetic with susceptibilities from 0.29 to 40.3 versus 0.11 to 0.91 after 3383.1 (most under 0.30). Mineralization is generally weak with up to trace to 1% finely

69674	3333.5	3336.0	2.5	TR-1	tr	.000	12
69675	3336.0	3339.0	3.0	TR	nil	.000	nil
69676	3339.0	3342.0	3.0	TR-1	nil	.000	nil
69677	3342.0	3345.0	3.0	TR-1	nil	.000	nil
69678	3345.0	3348.0	3.0	TR	nil	.000	nil
69679	3404.0	3407.0	3.0	NIL	nil	.000	nil
69680	3407.0	3409.5	2.5	TR	tr	.000	9
69681	3409.5	3412.0	2.5	1 · 2	.002	.000	65
69682	3412.0	3415.0	3.0	TR	tr	.000	9
69683	3415.0	3418.0	3.0	TR	tr	.000	7
69684	3418.0	3420.0	2.0	TR	tr	.000	9
69685	3420.0	3422.0	2.0	TR	tr	.000	2
69686	3422.0	3425.0	3.0	TR	nil	.000	nil
69687	3462.0	3465.0	3.0	NIL	tr	.000	4
69688	3465.0	3467.0	2.0	TR	tr	.000	2
69689	3467.0	3470.0	3.0	ΤŔ	tr	.000	3
69690	3470.0	3473.0	3.0	TR	tr	.000	3
69691	3502.0	3505.0	3.0	TR	tr	.000	9

From To (ft)

Geology

disseminated to fracture controlled pyrite.

The protolith appears to be dominated by more granular textured units although the alteration overprint is strong and obscures the rock. As previous, there are scattered chlorite shreds and blebs to lenses of vein material that may be interpreted as fragments but there is no clear indication that the protolith is tuffaceous at the top of the system. The first section with fairly numerous fragments of vein material, chlorite, and mosaic textured vein material (??) to 5 cms in size in a fine grained matrix with a mottled texture (that looks much like a coarse fragmental) occurs from 3396.6-3401.1 at 52/39 degrees upper contact sharply gradational, lower contact clean and sharp with granular textured rocks. The first clear foreign fragments are distinguished after 3421.8. There are scattered cherty and chloritic fragments to 2 cms in size in a granular textured unit from 3421.8-3427.2 at 36/54 degrees. Isolated fragments are found in the system to 3453.6 feet with a much better definition of fragments beyond that point.

From 3453.6 to the end of the hole, the volcaniclastic package consists of coarse fragmental sections intercalated with granular textured units where the fragment content is lean to absent. Units are on a scale of 20 cms to 3 meters in size. The coarse fragmental sections contain polymict fragments from 5 mms to 8 cms in size in a streaky altered matrix that is a mix of silty to ashy material and more granular textured horizons/layers. This style of sequence is fairly typical of the volcaniclastics north of the Larder Lake Break. The package grades somewhat cleaner with depth but textures continue to be mottled with alteration to the end of the hole. Magnetic susceptibilities are low in the fragmental rocks after 3453.6, ranging from 0.11 to 0.26.

There are a few traces of mud in the system. At 3395.4 feet there are two, narrow seams over 2 cms with 3 mms of mud at 53 degrees, and, 2 mms at 70 degrees, in the interval where the rocks are grading greener in colour. At 3465.8, there are also two mud seams at 49 degrees, 1.8 cms apart, and, at 3506.4 - 2 cms at 49 degrees.

There are a few variations in the carbonate content across the zone. In the interval 3408.4 to 3409.7, calcite grades to ankerite as the dominant carbonate, marked by a pale greyish bleached interval from 3409.7-3411.3 at 55/43 degrees with accessory (1-2%) disseminated to streaky pyrite. Weak to moderate calcite is noted in the system again between 3440.6 and 3460.5, and, from 3527.3 to the end of the hole. The protolith remains weakly to moderately ankeritic throughout. Mineralization continues to be weak in the lower part of the sequence with up to trace to 1% disseminated to streaky pyrite over a few mms. Veining ranges from 5 to 10%, irregular quartz-carbonate veins that are crudely subparallel to the foliation at 45 to 65 degrees with isolated veins at 0 to 30 degrees that are locally contorted and clearly crosscutting the foliation - relationships between the two sets are unclear.

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Sample	From	To	Len	PY	AU	AU1	AU2
No.	(ft)	(ft)	(ft)	%	OZ/T	OZ/T	PPB
69692 69693 69694 69695	3508.0 3551.0	3508.0 3511.0 3554.0 3557.0	3.0 3.0 3.0	TR TR TR TR	.001 .001 .003	.000	21 24 118 102

Drill Hole AN03 47W

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AU1

OZ/T PPB

AU2

From To (ft)

Geology

Sample From To Len PY ΛU No. (ft) (ft) (ft) % OZ/T

3557.0 (1084.5 m) End of Hole.

Drill Hole:

AN-03 47

DIAMOND DRILL HOLE RECORD

		D.	IMPOND DELL	H HOLL RECORD			
Property:	ANOKI						
Northing:	17500.00						
Easting:	7200.00						
Elevation:	11000.00	*** Dip 7	Tests ***	*** Dip Te	sts ***	Date Started:	June 5, 2003
Dic Galler.		Depth Az:	i. Dip	Depth Azi.	Dip	Date Completed:	June 26, 2003
Collar Azimuth (Gr	rid) .0						
Collar Dip:	~64.0	85.3	-64.0	892.2	-62.0	Drilled by:	Heath and Sherwood
	quals 017 degrees True)	301.8	-63.0	1187.4	-62.0	Core Size:	NQ
Hole Length:	1777.8	597.0	-63.0	1482.6	62.0	Material left in hol	e NX CASING
noie Bengen.	217770					Core Location:	Upper Canada Site 1
Date Printed:	16 Apr, 2004					Logged by:	Dale R. Alexander
						D- 01.	n
						Dan RAUX	indi-

From To | Geology | Sample | From To | Len | PY | AU | AU1 | AU2 | (ft) | (ft) | (ft) | (ft) | (ft) | % | OZ/T | OZ/T | PPB

SUMMARY LOG

.0 62.8 OVERBURDEN

62.8 72.2 FELDSPAR PORPHYRY

72.2 837.0 BASALT GABBRO

837.0 1777.8 ULTRAMAFIC KOMATIITE

32D04SW2039 2.27871

GAUTHIER

Page: 1 of 16

Drill Hole AN-03-47 Page: 2 of 16

From To (ft)

Geology

Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

.0 62.8 OVERBURDEN

Sand and clay with a few pebbles of mafic volcanic at the bedrock interface to $5\ \mathrm{cms}$ in size.

Mechanical problems were encountered in the drillhole at 1777.76 feet (542 m) - the rods stuck and broke at 1505.52 feet (459 m). Most of the material was retrieved except for the core barrel et al, such that the drillhole had to be wedged at 1741.68 feet (531 m). The wedged hole is designated as AN03-47W - assay data for top of system accompanies the log of the wedged hole.

62.8 72.2 FELDSPAR PORPHYRY

The drillhole collars into a short dyke of feldspar porphyry before entering a mafic volcanic package. The feldspar porphyry is dull grey with weak reddish tones to grey red in colour. It is composed of numerous, close-packed phenocrysts of feldspar with a minor matrix component visible containing amphibole, biotite, chlorite, and, a weak speckling with calcite. Phenocrysts are up to 5 mms in size, averaging 1-2 mms. Isolated quartz blebs to spots to 1.5 cms are also present. The dyke is blocky to broken throughout with highly rubbled core at the overburden interface to 65 feet no fault is inferred, the mud present seems to be drilling fluids. The dyke is essentially unveined and contains trace only fine points of pyrite. Magnetic susceptibilities range from 0.29 to 0.57. The lower contact area is slightly more reddish toned after 70 feet. The lower contact is sharp with a 9 mm calcite vein at 63 degrees.

72.2 837.0 BASALT GABBRO

Contact into a mafic volcanic package. The basalt is medium to dark green in colour and fine to medium grained with a fine granular to crudely developed gabbroic texture. The rocks are variably altered and fractured with calcite, chlorite, epidote and a grungy alteration with feldspar +/- epidote, chlorite, calcite and hematite. Adjacent to the feldspar porphyry dyke, the basalt is strongly calcitic and partly amphibolitized over 9 cms. There is local pervasive calcite alteration in the system beyond the contact in areas of stronger fracturing, but most of the alteration is confined to the fractures and their alteration halos. Flows are poorly defined in the system but there are irregularly spaced intervals with finer grained to streaky altered and fractured to weakly brecciated basalt +/- some grungy altered, chloritic zones that look remotely like selvage material. Over the first part of the system, there is very little amphibolitization away from the dyke contact until footwall to a second small dyke that extends from 150.3 to 151.4 - upper contact at 64 degrees, lower contact broken. Magnetic susceptibilities are highly erratic and are best addressed under the sequence breakdown as:.

72.2 150.3 Basalt Gabbro - as described in the overview, the basalt is medium to dark green in colour with a fine granular to gabbroic texture, and, irregular streaky to fracture controlled alteration with chlorite, calcite, epidote, hematite and the grungy

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feldspathic alteration. The rock is irregularly fractured with 5 to 10% calcite stringers and is mineralized with up to 1-2% pyrite over a few mms - generally within the more highly altered to fractured sections. Magnetic susceptibilities are erratic from 0.20 to 51.5. The section is cut by a narrow, dull grey green mafic intrusive with a weak reddish cast from 127.1-129.1 at 43/62 degrees. The dyke is flecked with amphibole +/- biotite, and, it contains some amphibolitized fragments to 2 cms in size. The dyke also appears to cut off some pitted to vuggy calcite veining with epidote - magnetic susceptibilities in the dyke range from 0.92 to 1.45. The lower contact with the small feldspar porphyry is sharp at 64 degrees.

- 150.3 151.4 Feldspar Porphyry contact into a narrow dyke of feldspar porphyry that is hanging wall to the first of the amphibolitic corridors the lower contact being broken. The dyke is dull grey in colour with weak reddish tones and reddish staining next to fine fractures with calcite. The unit contains numerous, relatively close-packed phenocrysts of feldspar to 5 mms in size in a dull grey, siliceous matrix that is weakly altered with chlorite. The dyke is weakly fractured with locally pitted to vuggy fine calcitic fractures, and, is mineralized with traces of fine pyrite. Magnetic susceptibilities range from 3.21 to 4.44.
- 151.4 178.6 Amphibolitic fault gouge return to the medium to dark green, granular to finely gabbroic textured basalts with erratic magnetic susceptibilities from 0.48 to 48.4. In this corridor there are three main amphibolitic corridors cued with narrow sections of broken core and gouge to grit at: 151.4-152.5, 10 of gouge to grit from 152.0 to 152.3, and weaker amphibolitization at the base from 152.3-152.5; 158.2-159.4 around broken core with grit over 3 cms at 158.6, and; 174.8-178.6, the largest amphibolitic section with 3 mms gouge at 177.7 at 48 degrees, 177.9-178.2 broken with 4 cms of gouge at 53 degrees, and, 2 mms of gouge at 178.6 at 55 degrees. The amphibolitic sections are black in colour with dark green and brownish streaks and a weak reddish cast. The sections are finely fractured to pervasively altered with calcite and are sparsely mineralized with pyrite. There are also some pitted to vuggy fractures with calcite +/- hematite in both the amphibolitic parts and the greener basalts. Contacts with the amphibolitic sections are sharply gradational. The lower contact is foliated at 57 degrees.
- 178.6 274.4 Basalt continue in basaltic flows that are somewhat finer grained than previous and the gabbroic texture is not as well developed. The rocks vary from medium to dark green and dark grey green in colour and continue to be variably altered with chlorite, epidote, calcite and hematite plus a weaker component of the grungy feldspathic style of alteration. There are erratic

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pitted to vuggy fractures with calcite. Overall, the rocks are weakly fractured with less than 5% calcite +/- hematite stringers, and, are sparsely mineralized with pyrite. Flow features are somewhat better developed in this section but tops are unclear. Magnetic susceptibilities range from 0.30 to 26.5 - most are less than 1.0. This section is also cut by a mafic intrusive from 230.5-235.9 at 27/19 degrees - lower contact somewhat threading the core axis after 234.7 feet. The dyke is dull grey green in colour with a weak reddish cast. It is pervasively calcitic, flecked to speckled with amphibole and is magentic with susceptibilities from 21.1 to 46.9. The lower contact with a feldspar porphyry dyke is a little irregular at 39 degrees - the dyke cutting a brecciated flow top (??).

- 274.4 278.2 Feldspar Porphyry contact into another dyke of feldspar porphyry. Both contacts of this dyke are a little irregular to ragged at 39/33 degrees the dyke appears to cut a flow margin zone in the basalt. The feldspar porphyry is dull grey in colour with variable pinkish tones. It is finer grained than the earlier dykes with close packed phenocrysts of feldspar to 4 mms in size in a fine grained matrix with a weak chlorite and epidote component. The dyke is irregularly cut by fine reddish stained fractures with calcite +/- hematite and there is a weak fine speckling with calcite. Magnetic susceptibilities are low from 0.08 to 0.14. There is trace only pyrite in the unit.
- 278.2 524.0 Basalt return to basaltic flows. The rocks vary from medium to dark green and grey green in colour and fine gabbroic textures are noted once more in this interval. At the top of the section to roughly 298 feet, the package is dark green in colour with a number of brecciated to ropey and variably foliated sections. Magnetic susceptibilities in this portion are erratic and range from 0.31 to 38.3. The rocks become more uniform in appearance overall after 298 feet. Susceptibilities after 298 are generally more uniform from 0.18 to 8.61, but there are isolated sections with magnetite in the system yielding readings up to 369. The strongest magnetics are related to a 6 cm, flow-top breccia with magnetite streaks to contorted layers from 308.0 to 308.7 at 19 degrees to the core axis and readings from 34.3 to 369 (tops are suggested to be downhole). A second flow top breccia from 355.0-355.5 at 42 degrees has readings from 73.5 to 130 where the magnetite is more patchy to streaky and fracture controlled. Footwall to a 2 mm mud seam and a 4.5 cm calcite vein (both at 61 degrees) at 350.0 feet, the adjacent basalt is partly amphibolitized, pervasively calcitic and also contains patchy magnetite - susceptibilities from 98.8 to 111 up to 350.6 feet. There is also some patchy magnetite at 356.9 feet - reading of 63.7 just below the flow top interval from 355.0 to 355.5, with patchy magnetics as 1.00 to 63.7 from 355.5 to 358.5.
- 278.2 524.0 Basalt (continued). There are several flow margin sections, however, without elevated magnetics for example between 358.5

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and 468. fractured to brecciated and ropey flow margins are common in the system but magnetics are consistently low from 0.23 to 0.80. Magnetics rise slightly again from 0.38 to 5.47 after 468, prior to another of the strongly magnetic flow top breccias with patchy magnetite over 3.5 cms from 471.9 472.1 at 43/39 degrees readings of 175 to 215. From 472.1 to 517.5, susceptibilities range from 0.18 to 8.61 (most under 0.50) with readings rising again in the lower contact zone after 517.5, from 0.70 to 38.1. The basalt is weakly fractured with calcite +/- quartz at generally shallow angles to the core Mineralization is weak but will reach up to 1-2% disseminated to fracture controlled pyrite over a few mms tending to cue with the fractures, or, some of the flow margin zones. As noted above, the basalt is more erratically magnetic after 517.5 approaching the lower contact. The rock also grades more strongly and pervasively calcitic and chloritic below 520.6 prior to the contact with a foliated zone at 524.0 at 69 degrees.

- 278.2 524.0 Basalt (continued). The system is also cut by a number of mafic intrusives, that are typically fine grained, flecked to speckled with amphibole, weakly to moderately calcitic, and generally more weakly magnetic than the adjacent host. Mafic intrusives include: 282.4-284.8 at 64/58 degrees, susceptibilities (MS) at 0.31 to 0.53; 292.6-294.4 at 44 degrees with moderately foliated contacts over 7 cms and 10 cms respectively, MS 0.41 to 0.84 the adjacent basalt is partly amphibolitized with susceptibilities from 4.10 to 38.3; 340.6-341.1 at 19/26 degrees, MS 0.44 to 0.46, and; 363.7-364.6 at 53/62 degrees, MS 0.33 to 0.38. The lower contact of this basalt section is gradational into more strongly foliated material at 69 degrees.
- 524.0 536.9 Foliated ankeritic calcite contact into a highly foliated to contorted segment that has a moderate to strong reaction to the presence of ankerite between 524.8 and 530.1, hanging wall to a narrow, 7 cm, pinkish red dykelet of feldspar porphyry from 530.1-530.4 at 48/14 degrees. There is a weaker reaction to ankerite from 531.4-533.6 at 24/32 degrees, where the rocks are speckled with ankerite and are streaked to incipient altered in appearance. In the main ankeritic corridor, from 524.8-530.1, the rocks are irregularly veined with about 10% quartz-ankerite stringers in addition to having highly contorted ankeritic streaks and more uniform alteration striped to incipient altered ankeritic sections that are foliated at 25 to 50 degrees to the core axis. The protolith is suggested to be an altered, reddish to brownish basalt but there are numerous streaks to fractures of dark bluish green, soft, ultramafic (??) material in the main zone and, lesser so, at the base of the system from 535.2 to 536.9. The ankeritic segments are weakly streaked to refractured (??) with calcite, and, the enclosing rocks are very strongly calcitic. The upper contact zone, from 524.0 to 524.8 is a dull reddish green, foliated, calcitic basalt - foliation at 60 to 70 degrees. The lower contact zone, from 535.2-536.9, is dull

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reddish brown in colour and is streaked to fractured with ultramafic material at 45 to 60 degrees - lower contact at 58 degrees.

- 524.0 536.9 Foliated ankeritic calcite (continued). Magnetic susceptibilities are highly variable across the section from 20.7-28.5 in the upper contact zone; 0.38-26.8 in the main corridor: 32.0 58.2 from 530.4 to 535.2 with disseminated magnetite common, and: 0.70-15.7 in the lower contact zone. Aside from the main ankeritic zone, veining is largely expressed as streaks to alteration-healed fractures. Typical to the incipient alteration style, the rocks are moderately hard, and, are mineralized with up to 1-2% disseminated pyrite over a few cms (no sustained mineralization). There is no distinct structure or gouge noted in the section. The lower contact is foliated at 58 degrees with streaky ultramafic material.
- 536.9 666.4 Basalt pillowed massive contact below the foliated corridor into a sequence of massive to pillowed lavas. The top of the section, to 605.2 feet, is the pillowed portion with erratically distributed chloritic selvages on a scale of a few cms to less than a meter in core length. After 605.2 feet, the rocks are more massive to fractured and brecciated with only a minor amount of material that could be construed as selvage zones. Both the pillowed and the massive flows are fine grained with a granular to very fine gabbroic texture. The rocks vary from medium to dark green in colour - pillow margins are commonly paler in colour, and amygdaloidal next to the dark, chloritic selvage zones that often have disseminated magnetite. In the massive to brecciated flow segment, the breccias are usually paler in colour with accessory epidote +/- grungy feldspathic alteration and scattered amygdules. There is a minor amount of amphibolitization in the pillowed segment but amphibolitization is stronger in the massive flows after 645.8 in two main corridors: from 645.8-649.2 at 24/45 degrees, and 657.6-658.5 at 60/62 degrees. The top amphibolitized section is related to strong fracturing at the top of the section (645.8-646.5 at 24/44 degrees) with a soft, amphibolitized ultramafic component. The lower section contains some accessory calcite fracturing, silicification and orangish staining prior to 3 cms of softer, foliated, amphibolitized ultramafic at its base.
- 536.9 666.4 Basalt pillowed massive (continued). Beneath the lower amphibolitized zone, the basalt is foliated, siliceous, strongly calcitic, and pinkish to orangish stained to 658.8 at 62/76 degrees it is hanging wall to a dyke of feldspar porphyry that threads the core axis (or contains coarse fragments to inclusions of basalt) to 660.0 at 76/66 degrees. The irregular dyke is followed by a coarsely granular, calcitic, soft amphibolitized ultramafic from 660.0-660.8 at 66/38 degrees. From this last amphibolitized ultramafic, the rock is a dark green, fine to medium, grained gabbroic textured basalt of the

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hornblende spotted type down to the lower contact with another dyke of feldspar porphyry at 666.4 at 19 degrees.

536.9 666.4 Basalt pillowed massive (continued). At the upper contact of the system, the pillowed basalt is pinkish toned and pervasively calcitic to 538.9 feet. The core is also blocky to broken from 538.0 to 538.9 due to a pitted to vuggy calcite fracture nearly along the core axis. There is also a narrow shear to foliated section in the pillow lave at 565.0 feet - 7 cms at 39 degrees. with a trace of reddish hematitic mud. Just inside the section of massive flows, there is an 8 mm to 3 cm calcite vein breccia with coarse needles of hematite at 19 degrees to the core axis from 605.4 606.2. Magnetic susceptibilities are variable. In the pillowed corridor, selvage zones are invariably more magnetic than the pillow centers with susceptibilities ranging from 0.62 to 110. In the massive flows, readings range from 0.82 to 15.0 (from 605.2-645.8). The lower contact zone is more magnetic again with susceptibilities from 1.00 to 56.8 in the basalts and amphibolitized basalt, 1.61 to 6.45 in the feldspar porphyry, and, 0.28 to 0.50 in the coarsely granular, more definite ultramafic from 660.0-660.8. Overall, the rocks are weakly fractured with 5-10% calcite +/- quartz stringers at variable angles to the core axis. Pyrite minweralization is weak but will reach 1-2% disseminated to fracture controlled material in some of the selvage zones and around a few of the fractures. The lower contact is clean and sharp at 19 degrees.

666.4 682.2 Feldspar Porphyry - contact into a dyke, or series of dykes, of feldspar porphyry at very shallow angles to the core axis cutting basalt. Dykes are found at 666.4-675.6 at 19/7 degrees; 676.6-677.4 at 45/52 degrees; 678.0-678.5 running along but not entirely cutting across the core axis, and; 679.1-682.2 both contacts irregular at 38/39 degrees. The dykes vary from grey to grey beige and grey red in colour with variable red to orangish staining around fine open fractures with calcite +/- chlorite. dykes are hard and siliceous and are peppered with phenocrysts of feldspar to a cm in size (most under 3 mms) along with much more scattered blebs to patches of greyish quartz to a cm in size. The phenocrysts are relatively close packed such that there is only a minor amount of chlorite, epidote, biotite and amphibole noted in the siliceous matrix. Aside from the fine fractures with staining, the dykes are essentially unveined, and, are very sparsely mineralized with trace only fine points of pyrite. Magnetic susceptibilities are low from 0.03 to 0.62. The basaltic host is fine grained and siliceous between the first two dykes (675.6-676.6). It is dull green in colour with beige toned patches. It is irregularly fractured with calcite with some pinkish to red staining susceptibilities of 0.02 to 0.08, trace only fine pyrite. The section from 677.4-679.1 is a brecciated basalt with a possible dark green mafic intrusive (speckled with acicular amphibole) from 677.4-677.8 at 52/59 degrees.

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666.4 682.2 Feldspar Porphyry (continued). The age relationship between the mafic intrusive and the feldspar porphyry is unclear. Magnetic susceptibilities in the mafic intrusive vary from 0.41 to 1.12 - 2.12 to 5.98 in the brecciated basalt. Trace only pyrite. The lowest feldspar porphyry dyke is the more greyer toned of the sequence. The lower contact is at 39 degrees.

- 682.2 752.4 Basalt return to basaltic flows, parts of which appear to be pillowed but there is no sustained occurrence of the selvage style of contact feature. The rocks are medium to dark green in colour and have a finely granular to crudely developed gabbroic texture. Flow margins are fractured to brecciated and/or foliated with two instances of siliceous to cherty tops from 712.0 to 715.3 at 24/14 degrees - crude lavering at 35 to 40 degrees, and, just before the lower contact zone from 750.9 to 751.1 at 38 degrees. The lower contact zone is a brecciated to ropey flow to tuffaceous basalt from 751.1 to 752.4 - lower contact irregular averaging 43 degrees with much more weakly magnetic basalt. The two siliceous to cherty parts are partly bleached to orangish stained. The first siliceous to cherty segment appears to be cut off by a mafic intrusive from 715.3-721.4 at 14/17 degrees. There is a second mafic intrusive earlier in the system from 697.9-708.8 at 12/17 degrees - this dyke appears to be threading the core axis along its length but precise contacts are ill defined due to the blocky nature to the core (in both dykes). The mafic intrusives are dull to dark green to reddish green in colour. They are granular textured, flecked with amphibole and moderate to strongly calcitic susceptibilities vary from 0.20 to 2.56 in the dykes.
- 682.2 752.4 Basalt (continued). Magnetic susceptibilities continue to be erratic in the mafic flows ranging from 0.11 to 54.2. The flows are weakly magnetic at the outset (to 692.6), with readings from 0.27 to 1.76; the central zone varies from 0.11 to 51.2, with a range of 0.11 to 2.39 in the siliceous to cherty parts; the lower contact ropey flow to tuffaceous zone ranges from 0.35 to 0.55. In addition to the siliceous flow margins, there is a foliated, calcitic and amphibolitized flow margin section from 730.3-731.8 at 52/51 degrees, foliated to streaked at 35 to 50 degrees, susceptibilities from 4.12 to 54.2. Overall, the basalt is moderately fractured with 5 to 15% calcite streaks and stringers at variable angles to the core axis with pervasive calcite common in the system. Pyrite mineralization is generally weak. The lower contact is irregular, averaging 43 degrees.
- 752.4 773.8 Basalt silicified contact into a short interval of thin flows with siliceous to cherty tops. The flows in this section are dull grey to grey green and creamy coloured the paler parts generally reflecting the siliceous tops to the flows. The flows are on a scale of a few cms to 1.5 meters in size average is 30 to 50 cms at 35 to 55 degrees to the core axis. The rocks vary from hard to very hard in the more siliceous parts. The

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basalt is weakly fractured to streaked with calcite and is very weakly to nonmagnetic with susceptibilities from 0.08 to 0.34. There is no true chert in the section. The rocks are very sparsely mineralized with trace only pyrite accompanying some of the fine calcite stringers. The basalt is fine grained to finely granular textured. The lower contact with more chloritic rocks is sharp at 61 degrees.

- 773.8 811.3 Basalt Gabbro contact into a much more chloritic section of basalt. The basalt is fine to medium grained with a well developed granular to gabbroic texture that is of the hornblende spotted variety. It is medium green in colour, weakly fractured with calcite, and, sparsely mineralized with pyrite. The core is locally mottled in appearance from the strong chlorite alteration. Flow features are relatively poorly defined until the lower contact zone - the basalt is increasingly foliated and calcitic with streaks to lozenges and discontinuous stringers of pitted to yuggy calcite from 807.0 to 811.3, capped by a 6.5 cm, very fine grained siliceous section at the base at 50/47 degrees. The foliated section is foliated at 35 to 60 degrees to the core axis. The top of this overall zone is weakly magnetic with susceptibilities from 0.15 to 0.57. A change to magnetic rocks appears to occur after a dyke of feldspar porphyry from 799.3-802.7 - contacts irregular at 58/60 degrees (upper contact from 0 to 58 degrees from 799.1 to 799.7). Susceptibilities in the dyke range from 0.10 to 0.31; in the basalt beneath the dyke readings vary from 2.93 to 80.6 strongest in the foliated corridor from 23.0 to 80.6. The feldspar porphyry is typically reddish grey in colour with close packed phenocrysts of feldspar to 4 mms, isolated spots of quartz to 1 cm, and, traces of amphibole, chlorite and epidote +/- biotite noted in the matrix. The lower contact of the sequence is sharp at 47 degrees.
- 811.3 837.0 Contact Zone Basalt Basaltic Komatiite the contact zone package of the basalt sequence is dark in colour and much richer in ferromagnesian minerals than the vast majority of the basalt sequence. The rocks are dark green in colour with a weak bluish cast, moderate to strongly chloritic, and, are softer than the normal basalt but harder than the ultramafic rocks that follow. The section appears to be transitional between the basalts and ultramafics. There is no megascopically visible feldspar in this corridor. The matrix component is finely felted with flecks to spots of hornblende. Magnetic susceptibilities are low from 0.22 to 2.78 up to the lower contact zone from 835.6-837.0 where readings are 1.35 to 33.0. The lower contact zone is siliceous and much harder than the adjacent rocks - it is also greyer in colour with orange staining and partial amphibolitization. The initial part of the lower contact zone is cut by a narrow mafic intrusive from 835.6-836.0 at 49/38 degrees - susceptibilities of 16.0 to 23.4. A second mafic intrusive is found at

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832.7-833.7 at 37/41 degrees with much lower susceptibilities of 0.67 to 0.72 - the only difference is that the lower dyke is pervasively calcitic. The basaltic komatiite is more reactive to the presence of ankerite in the top of the section to roughly 817, although the fracturing in the system continues to be calcitic. Pyrite is present in trace amounts only. The lower contact is sharp at 43 degrees.

837.0 1777.8 ULTRAMAFIC KOMATITE

Contact into a package of ultramafic rocks. The package is complex but is dominated by blue grey to blue black and dark bluish green flows with locally well developed flow breccias and isolated sightings of spinifex textures. The rocks are normally soft and soapy, and, are moderate to strongly magnetic with susceptibilities above 20 common in the more massive parts of the system. The rocks are also variably fractured with calcite +/-magnesite and are variably amphibolitized. A foliation at shallow angles (less than 40 degrees) is common. The ultramafics are normally sparsely to unmineralized. The sequence breakdown includes:

- 837.0 864.1 Ultramafic Komatiite the contact unit of the ultramafic package is characteristic of the main part of the sequence. The rocks are blue grey to blue black and dark bluish green in colour and are fine grained with a granular to mottled texture. They are weakly fractured with 5-10% calcite +/- magnesite stringers and are sparsely mineralized with trace only disseminated pyrite. Magnetic susceptibilities range from 7.88 to 78.6, with most greater than 30. The upper contact is greener in colour and partly chloritic over 9 cms at 43/55 degrees. There is a bit of granulated core with a trace of mud in this section at 860.6 1 cm at 72 degrees. Flow breccias are not well developed in this section but there is a trace of spinifex at 852 feet. The lower contact is sharp but broken at 25 degrees.
- 864.1 866.6 Mafic Intrusive contact into a short dyke of mafic intrusive. It is harder than the adjacent ultramafic but with softer, amphibolitized contact zones over 2 cms and 5 cms respectively at 25/31 degrees. The dark is dark grey to brownish and black in colour with a fine granular texture and a speckling with amphibole in addition to being moderately amphibolitized and pervasively calcitic throughout. Magnetic susceptibilities range from 1.77 to 6.94. The mafic intrusive is moderately fractured with about 10% irregular calcite fractures and is mineralized with trace to 1% disseminated pyrite. The lower contact is sharp and amphibolitized at 31 degrees.
- 866.6 897.7 Foliated contact into a variably foliated and amphibolitized segment of the ultramafics. The rocks vary from blue black to black and brownish in colour with less of the dark blue green rocks. The rocks are moderate to strongly foliated and contorted throughout at 0 to 50 degrees to the core axis the foliation

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appears most related to a 1.3 cm gouge section at 880.6 feet at 37 degrees, with granulated to sheared rocks to 880.3 above the zone, and, blocky to broken and strongly amphibolitized core in the footwall to 882.3 feet. There is a second, sheared to granulated section at 887.2 feet - 1 cm at 52 degrees, but with minimal effects in the sdjacent rocks. The ultramafic is streaked to foliated, fractured and veined with 10-20% calcite at normally very shallow angles to the core axis. The core is sparsely mineralized with up to trace to 1% disseminated cubic pyrite and pyrite aggregates. All of the rocks are soft and soapy except for a narrow, brownish, calcitic section over 8.6 cms from 886.6-886.9 at 42/39 degrees that may be a relict mafic intrusive. The lower contact is sharp and foliated at 34 degrees into harder, brownish altered rocks.

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897.7 929.0 Amphibolitic Ultramafic Komatiite Feldspar Porphyry - contact into an interesting corridor of ultramafic rocks with some dykes feldspar porphyry and amphibolitic sections that may represent relict basalts. There are two, clear dykes of feldspar porphyry with very irregular contacts from 913.6-914.6 at 56/52 degrees, and, 928.6-929.0 at 49/45 degrees. These two dykes are dull grey in colour with pinkish to beige tones and well developed feldspar phenocrysts to 4 mms in size. There is also a dull grey, siliceous corridor with weak pinkish tones around fracturing and a couple of patches of amphibolitized ultramafic from 899.5-904.2 at 60/49 degrees; a highly fractured siliceous section with irregular contacts from 898.2 to 898.7 at 34/44 degrees, and; a highly fractured siliceous patch just cutting the core axis from 923.5-924.8, that may represent relict feldspar porphyry dykes although the more altered members have much higher magnetic susceptibilities from 15.5 to 39.7, versus 0.32 to 1.62 in the porphyritic members. In addition to the feldspar porphyry dykes and potential dykes, the core is harder, variably amphibolitized, and striped with calcite streaks and stringers to 3 cms in size at 35 to 45 degrees to the core axis between 921.3 and 928.0 at 41/29 degrees. The protolith in this corridor is more basaltic in appearance, and, there is a unit of banded chert in this section from 925.4-926.1 at 44/31 degrees.

897.7 929.0 Amphibolitic Ultramafic Komatiite Feldspar Porphyry (continued).

Two further corridors that look more like a basaltic protolith, are strongly calcitic, amphibolitized, and duller green in colour are found at 907.5-909.0 at 49/21 degrees, and, 918.5-919.2 at 37/39 degrees. Magnetic susceptibilities tend to be the strongest of the system in the basalts but are erratic from 1.83 to 88.5 - most over 20, chert up to 16.4. Also cutting this system is one of the dull brownish to black, calcitic sections that may be a relict mafic intrusive from 911.4-913.0 with undulating contacts at 14/10 degrees - susceptibilities of 15.5 to 16.2. The balance of the rocks in this system, and, the dominant rock type is ultramafic. It is black to blue black and dark bluish green in colour with local more brownish

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Drill Hole AN-03-47

Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

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amphibolitization around the dyke contacts. The ultramafic is soft and highly streaked to foliated with calcite at 20 to 45 degrees. Magnetic susceptibilities range from 1.34 to 30.7. The ultramafic is sparsely mineralized with up to trace to 1% disseminated pyrite - the basaltic section with chert contains up to 3-5% disseminated to streaky and fracture controlled pyrite, and, the porphyries host up to 2-3% disseminated pyrite with a rare splash of chalcopyrite. The altered feldspar porphyry also contains some shallow angle fractures with gypsum. The lower contact of this system is along a feldspar porphyry dyke at 45 degrees - contact irregular and partlt absorbed.

929.0 1329.2 Ultramafic Komatiite - return to more uniform dark bluish green to black and blue black ultramafic flows with well developed flow breccia sections. The first spinifex is noted in the system at 987.4 with some stunning examples below that point (to 1033). Where there is a sufficient contrast between the flows, tops appear to be downhole - flows have brecciated margins with or without spinifex textured tops. The rock is fine grained with a variable massive to granular and mottled texture. The ultramafic is more weakly fractured with only 5-10% irregular calcite +/- magnesite stringers in this sector (magnesite is common) - pervasive alteration with calcite is minimal. The rocks are sparsely mineralized with traces of disseminated cubic pyrite. Magnetic susceptibilities are elevated again from 18.9 to 73.2. Near the top of the section, there is a narrow, brownish, strongly amphibolitic, calcitic mafic intrusive from 959.4 to 960.5 at 42/44 degrees susceptibilities from 1.15 to 3.07. The unit also contains a trace of gouge at 1029.8 - 1 cm broken at 30-40 degrees. From 1155.5-1161.6 there are three thin flows with brecciated margins at 15 to 40 degrees to the core axis, and, weaker magnetic susceptibilities from 1.05 to 18.7 - tops appear to be downhole. A second, more weakly magnetic, zone is associated with a more brownish altered and spinifex textured flow top from 1249.1-1253.1 at 8/21 degrees with susceptibilities from 9.68 to 25.7 (tops downhole).

929.0 1329.2 Ultramafic Komatiite (continued). Magnetic susceptibilities are strong again below this section from 18.9 to 53.6 up to the next brownish altered flow top from 1291.4-1294.8 at 40/22 degrees. This flow top section has a brownish altered, calcite speckled, segment at the base, from 1293.0 to 1294.8 at 29/22 degrees with susceptibilities of 0.33 to 0.90 (susceptibilities in the balance of this section from 0.75 to 14.8). The calcite speckled section is strongly amphibolitic and resembles some of the relict mafic intrusives although this corridor remains very soft. Susceptibilities are more erratic below 1294.8 with readings from 0.40 to 62.7. The rocks are greener in colour, to dark green and black, soft ultramafic from 1314.4 to the lower contact at 1329.2 - susceptibilities in this lower contact corridor range from 0.40 to 9.16. Contacts of the greener

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(ft)

Geology

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Sample From To Len PY AU AU1 AU2

(ft)

(ft)

No.

(ft)

OZ/T

PPB

OZ/T

corridor are at 49/45 degrees. There is one further, highly fractured to weakly granulated section in the ultramafics from 1254.0-1255.9 - no mud, but some very soft granulated parts at 35 to 50 degrees to the core axis. The lower contact of the ultramafic section is irregular, averaging 45 degrees to the core axis.

- 1329.2 1363.7 Mafic Intrusive Basalt contact into a section that could be either a mafic intrusive or a section of basalt (mafic intrusive appears the preferred designation). The unit is dull dark grey to dark grey green in colour with a granular texture and very scattered amphibolitic spots to a cm in size. It is moderately fractured with about 10% irregular calcite stringers and mineralized with trace to 1-2% disseminated cubic pyrite. The unit is moderately hard. Its relatively uniform texture and mineralization is suggestive of a mafic intrusive, combined with partial amphibolitization of the adjacent, and internal, ultramafic rocks. Internally, there are sections of ultramafic from 1355.0-1356.1 at 35/60 degrees, 1361.9-1362.5 at 31/49 degrees, and, at 1363.5 - 4 cms at 49/44 degrees. Below the appearance of the first ultramafic, the mafic intrusive is more chloritic, partly and mottled in texture. amphibolitized susceptibilities range from 5.88 to 23.2 in the main dyke, 0.55 to 19.5 in the more mottled lower contact area, and, 0.33 to 3.13 in the ultramafics. The lower contact of this section is sharp at 53 degrees with strong brownish alteration and amphibolitization over 5 cms in the adjacent ultramafic.
- 1363.7 1434.5 Ultramafic Ultramafic Komatiite return to ultramafic rocks. The top of this section is dark green to bluish green and black in colour with variable brownish alteration down to 1367.5 (contact at 71 degrees) before more continuous blue black ultramafic is reached. The upper contact is also more weakly magnetic with susceptibilities from 1.06 to 22.0, versus the much stronger readings in the blue black ultramafic from 14.3 to 62.0. One further, greenish to black brecciated potential flow top zone with weaker magnetics and strong amphibolitization is found between 1377.0 and 1380.1 susceptibilities from 1.32 to 3.15. This section is accompanied by blocky to broken core with gouge over 30 cms at the upper contact (1 gouge at 73 degrees ??), and, 19 cms at the lower contact. Broken to granulated core +/- gouge is also found in the top of the system at 1381.0-1381.9 ending on 6 mms of gouge at 9 degrees, and, 1386.8 to 1387.3, granulated, orientation unclear. In this corridor, flow features are not well developed - most of the rocks are fine grained to massive with a finely granular to mottled texture. The core is weakly fractured with 5-10% calcite +/- magnesite stringers, and, is very sparsely to unmineralized. Magnetic susceptibilities weaken once more over the basal 30 cms, approaching the

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From To
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Geology

Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

contact with a mafic intrusive - readings from 3.06 to 8.24. The lower contact is sharp and amphibolitized over 2 cms at 64 degrees.

- 1434.5 1437.8 Mafic Intrusive contact into a short dyke of mafic intrusive that appears to mark a change in the ultramafics to more chloritic and weakly magnetic rocks. The mafic intrusive is dark grey to brownish in colour and has a fine granular texture. It is weakly speckled to crudely fractured with amphibole, and, contains some isolated amphibolitic spots to fragments to a cm in size. The dyke is weakly fractured with calcite and is mineralized with trace only disseminated to fracture controlled cubic pyrite. Magnetic susceptibilities 1.37 to 3.36. The contacts are relatively sharp and amphibolitized at 64/72 degrees.
- Komatiite return to ultramafic rocks. As 1437.8 1685.4 Ultramafic mentioned above, the the rocks are more chloritic and weakly magnetic footwall to the mafic intrusive with susceptibilities from 0.17 to 19.2 - most are under 1.0, with most under 0.50 after 1462 feet. The ultramafic is dark green to bluish green and blue black in colour and is fine grained to massive with a finely granular to mottled texture. While there are local weakly foliated to crudely brecciated sections at 50 to 60 degrees to the core axis that are suggestive of flow margins, flows are very poorly defined with the well developed flow breccias and spinifex textures lacking. The core is variably fractured with calcite +/- magnesite stringers at variable angles to the core axis - normally less than 10% but with corridors of 25-35% irregular fractures. The rocks continue to be very sparsely mineralized with disseminated cubic pyrite and pyrite aggregates. There are a few narrow mafic intrusives in the system, the first few are brownish altered as: 1485.7 -6 cms at 45 degrees; 1487.8 - 5.7 cms at 47 degrees, and; 1495.7 - 4.3 cms at 60 degrees, with a more granular textured, larger dyke from 1603.7-1604.9 at 39/48 degrees, and, a very dull grey to brownish dyke with 1-2% grained, disseminated to fracture controlled cubic pyrite from 1649.2-1652.0 at 33/20 degrees. Susceptibilities in the mafic intrusives are little different than the host ranging from 0.07 to 0.56.
- 1437.8 1685.4 Ultramafic Komatiite (continued). While the magnetic susceptibilities are relatively consistent and low after 1462, there are two corridors with more blue black ultramafic and elevated susceptibilities in the lower part of the section from 1614.9-1623.5 at 40/38 degrees with susceptibilities from 1.47 to 13.5, and, 1670.5-1674.6 at 38/51 degrees with readings of 1.02 to 19.2. The lower contact of the system is foliated and partly serpentinized at 56 degrees.

1685.4 1715.0 Basalt Basaltic Komatiite - contact into a short basaltic

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Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

corridor sitting between two ultramafic members. The basalt is dark grey green to dark green in colour with a finely granular texture that becomes more mottled after 1707.2. The rocks are quite ferromagnesian rich and, once the mottled nature to the core occurs at 1707.2, the core is softer, more strongly chloritic, and, appears marginal to ultramafic in composition. The ultimate lower contact chosen, however, is both a flow margin and a magnetic contact at 1715.0 at 43 degrees. Magnetic susceptibilities are quite uniformly low and less than 0.40, with a range of 0.11 to 2.33 including two isolated readings that are greater than 0.83. Just inside the upper contact, the basalt is well fractured with calcite to the point of being a calcitic vein breccia with fragments of basalt from 1686.9-1695.2 at 22/41 degrees. A second, weaker, fractured to calcitic vein breccia zone extends from 1700.9-1701.7 at 50/47 degrees. Outside of the two vein breccias, calcite (with rare quartz) fractures and stringers make up about 10% of the rock. Flow features are not well developed until the lower, mottled corridor where there are foliated to to contorted and crudely brecciated sections at variable angles to the core axis. Pyrite mineralization is weak, with trace only disseminated cubic pyrite and pyrite aggregates. The lower contact is sharp at 43 degrees.

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1715.0 1754.1 Ultramafic Komatiite Ultramafic - return to an ultramafic package of rocks. In this sector, the rocks are fine grained to very fine grained with a massive to locally mottled texture. The ultramafics are highly foliated to contorted at shallow angles to the core axis and are irregularly fractured to streaked with calcite +/- magnesite. The foliated to contorted nature precludes much potential definition of the flows. Magnetics are strongest in the central portion of this zone with susceptibilities from 3.77 to 36.7 there are weaker readings at the upper contact (to 1716.2) from 1.33 to 5.47. and, weaker readings from 1743.9-1748.5 of 0.57 to 2.38 prior to one of the calcite fractured to vein breccia styles of occurrence at the base of the zone from 1748.5-1754.1 where susceptibilities are 0.72 to 12.7. The vein breccia zone is at degrees - the lower contact is gradational into 23/44 foliated, streaky calcitic ultramafics that are much more weakly magnetic. Some of the fragments in the vein breccia zone are greener in colour and look marginal to basalt to basaltic komatiite in composition, but most are clearly ultramafic with a variable mottling from carbonate +/rocks continue to be sparsely The amphibolitization. mineralized with disseminated pyrite but a few streaks with fine pyrite and calcite are noted at the top of the system down to 1722.6 feet. There is a narrow granulated section with a trace of mud over 1.2 cms at 1735.6 at 52 degrees. The lower contact is at 44 degrees.

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From To Geology (ft) (ft)

Sample From To Len PY AU AU1 AU2 No. (ft) (ft) (ft) % OZ/T OZ/T PPB

1754.1 1777.8 Ultramafic Komatiite as noted above, the calcitic vein breccia from 1748.5 to 1754.1, deteriorates into a foliated to streaky calcitic ultramafic that is also more weakly magnetic after 1754.1. The rock is dark green to black in colour and locally appears marginal to basalt especially in the presence of accessory streaking to fracturing with calcite but the protolith is moderately soft across the zone. Susceptibilities range from 0.32 to 2.89. The rocks are foliated to streaky altered and fractured at generally shallow (less than 30 degree) angles to the core axis. The core is more strongly streaked with calcite after 1772.1 to the point where the primary hole was lost at 1777.8 - the rocks are competent and core very well. The zone is sparsely mineralized with trace to 1-2% disseminated to crudely fracture-controlled pyrite.

The hole was wedged at 1741.68 feet (531 m) - logged as AN03 47W.

1777.8 (542 m) End of primary hole.



Work Report Summary

Transaction No:

W0480.00932

Status: APPROVED

Recording Date:

2004-JUN-11

Work Done from: 2003-JUN-05

Approval Date:

2004-JUN-21

to: 2003-DEC-31

Client(s):

185109

QUEENSTON MINING INC.

Survey Type(s):

ASSAY

PDRILL

W	Work Report Details:									
Cla	aim#	Perform	Perform Approve	Applied	Applied Approve	Assign	Assign Approve	Reserve	Reserve Approve	Due Date
G	8000830	\$25,530	\$25,530	\$0	\$0	\$0	0	\$25,530	\$25,530	
G	8000968	\$51,623	\$51,623	\$0	\$0	\$12,400	12,400	\$39,223	\$39,223	
L	800155	\$0	\$0	\$800	\$800	\$0	0	\$0	\$0	2010-JUN-26
L	1214388	\$0	\$0	\$800	\$800	\$0	0	\$0	\$0	2010-JUN-10
L	1242096	\$0	\$0	\$2,400	\$2,400	\$0	0	\$0	\$0	2010-AUG-01
L	1242097	\$0	\$0	\$800	\$800	\$0	0	\$0	\$0	2010-AUG-01
L	1242099	\$0	\$0	\$800	\$800	\$0	0	\$0	\$0	2010-AUG-09
L	1242717	\$0	\$0	\$800	\$800	\$0	0	\$0	\$0	2010-NOV-14
L	3009238	\$0	\$0	\$2,000	\$2,000	\$0	0	\$0	\$0	2010-JUN-02
L	3010098	\$0	\$0	\$2,000	\$2,000	\$0	0	\$0	\$0	2010-JUN-26
L	3010099	\$0	\$0	\$2,000	\$2,000	\$0	0	\$0	\$0	2010-JUN-26
		\$77,153	\$77,153	\$12,400	\$12,400	\$12,400	\$12,400	\$64,753	\$64,753	-

External Credits:

\$0

Reserve:

\$64,753

Reserve of Work Report#: W0480.00932

\$64,753

Total Remaining

Status of claim is based on information currently on record.



32D04SW2039 2.27871

GAUTHIER

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Date: 2004-JUN-28

QUEENSTON MINING INC.

TORONTO, ONTARIO M5H 2G4 CANADA

1116-111 RICHMOND STREET WEST



GEOSCIENCE ASSESSMENT OFFICE 933 RAMSEY LAKE ROAD, 6th FLOOR SUDBURY, ONTARIO P3E 6B5

Tel: (888) 415-9845 Fax:(877) 670-1555

Submission Number: 2.27871 Transaction Number(s): W0480.00932

Dear Sir or Madam

Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

If you have any question regarding this correspondence, please contact STEVEN BENETEAU by email at steve.beneteau@ndm.gov.on.ca or by phone at (705) 670-5855.

Yours Sincerely,

Rom c Gashinsh. Ron C. Gashinski

Senior Manager, Mining Lands Section

Cc: Resident Geologist

Queenston Mining Inc.

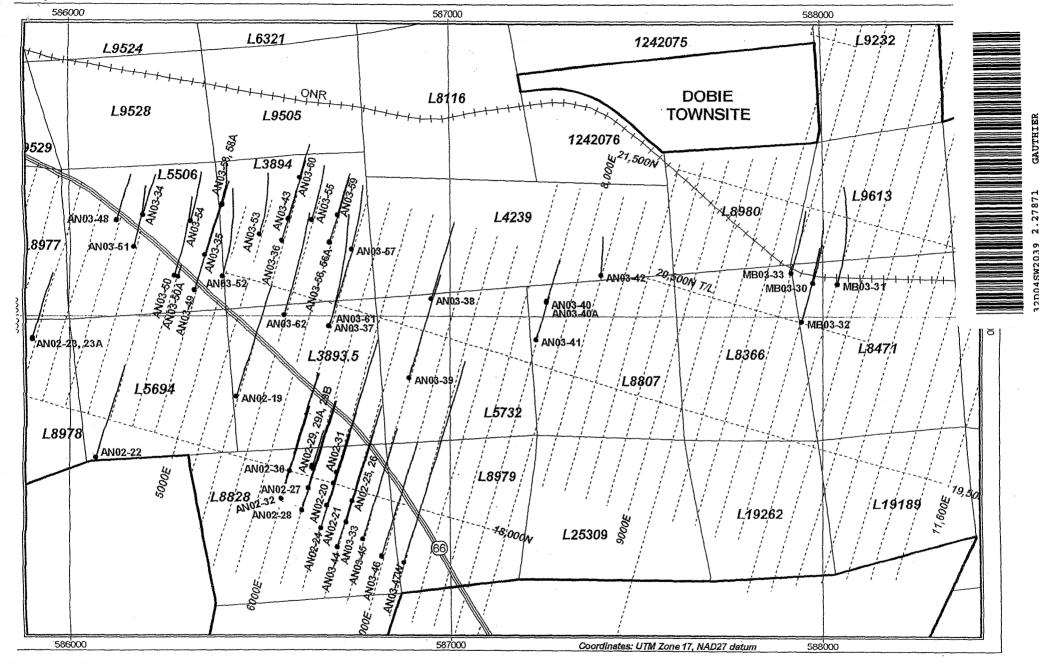
(Claim Holder)

Wayne Russell Benham (Agent)

Assessment File Library

Queenston Mining Inc. (Assessment Office)

Mining Land Tenure



0 100 200 Meters
0 400 800 Feet

QUEENSTON MINING INC.

ANOKI - McBEAN PROJECT

Kirkland Lake Area, Larder Lake Mining District

DRILL HOLE LOCATION MAP



SURPAC_VISION - Burt Consulting Services