QUEENSTON MINING INC

DIAMOND DRILL HOLE RECORD

Drill Hole: VI-03-01

Property: VIGRASS
Northing: 9790.00
Easting: 11070.00
Elevation: 320.00

Collar Azimuth (Grid) .00
Collar Dip: -60.00
(0 Degrees Grid equals 0 degrees True)
Hole Length: 387.00

Date Printed: 19 Apr, 2004

*** Dip Tests ***			*** Dip Tests ***		
Depth	Azi.	Dip	Depth	Azi.	Dip
1.5		-59.5	270.0		-56.0
90.0		-59.0	360.0		-53.0
180.0		-58.0			

Date Started: Feb 13, 2003
Date Completed: Feb 22, 2003

Drilled by: H & S
Core Size: NQ
Material left in hole NX CASING- pulled
Core Location: Upper Canada Site 1
Logged by: FR Ploeger

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

SUMMARY LOG

.00	1.50	OVERBURDEN
1.50	49.47	ULTRAMAFIC KOMATIITE
49.47	99.13	BASALT
99.13	103.02	TUFF
103.02	112.80	ULTRAMAFIC
112.80	119.45	MAFIC INTRUSIVE
119.45	184.75	ULTRAMAFIC ULTRAMAFIC KOMATIITE
184.75	187.25	FELSITE
187.25	227.34	BASALTIC KOMATIITE BASALT
227.34	251.50	ULTRAMAFIC
251.50	257.38	MAFIC INTRUSIVE
257.38	258.97	ULTRAMAFIC
258.97	284.87	PYRITIC SILICIFIED ZONE FELSITE
284.87	293.15	START OF DEFORMATION ZONE CARBONATED ULTRAMAFICS
293.15	302.73	FAULT ZONE CARBONATED ULTRAMAFICS
302.73	305.21	ULTRAMAFIC
305.21	307.90	MAFIC INTRUSIVE

42A01SE2024 2.28402 TECK

From (m.)	To (m.)	Geology
307.90	319.06	CARBONATED ULTRAMAFICS
319.06	327.00	GREYWACKE CONGLOMERATE
327.00	334.60	CARBONATED ULTRAMAFICS
334.60	338.43	GREEN CARBONATE ZONE
338.43	356.35	GREYWACKE SILTSTONE CARBONACEOUS SEDIMENTS
356.35	362.20	CARBONACEOUS SEDIMENTS
362.20	377.76	GREYWACKE
377.76	387.00	CONGLOMERATE

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

From (m.)	To (m.)	Geology
.00	1.50	OVERBURDEN

Very shallow overburden comprising a thin soil layer on top of broken pieces of oxidized/ rusty regolith.

From (m.)	To (m.)	Geology
1.50	49.47	ULTRAMAFIC KOMATIITE

The interval represents a series of ultramafic komatiite flows that exhibit all of the characteristic features of this lithology. No attempt is made to distinguish individual flows as this would bog down the logging with superfluous clutter and detract from the alteration and veining which are the main focus of the hole. The various phases/ features are grouped together and described in detail below. They include spinifex, microfex, flow top and bottom breccias, hyaloclastite, polysutured and massive flows. In places, alteration and veining are superimposed on the textures.

1.50 14.30 Ultramafic Komatiite - The leading interval is dominated by a series of thin flows (to 40cm) with thick spinifex textured contact zones that make up more than 50% of the core. The overall colour of the zone is dark grey blue with the massive sections of the flows forming a slightly lighter shade and the spinifex blades and polyhedral joints, a dark blue black colour. The body of the flows is irregular in shape, the cause of which is the rapid quenching that fractures the flow contacts resulting in fine grained and spinifex- textured embayments. The spinifex blades occur at all orientations and range from mm to 5cm+ in size. The MS values of the zone gradually increase to 9.50 at 9.10m, drop back down to 1.60 at 12.0m at which point they shoot to 32.0 and maintain a plateau in the mid 20's to the end. The carbonate alteration of the matrix and 0.5% fine veining is calcite; sulphides are trace.

14.30 37.66 Ultramafic Komatiite Pyroclastic - As the subheading implies, this section is predominantly composed of thin flows and fine intraflow fragmental material. Apart from a slightly thicker flow near the start that is medium to fine grained, the remainder are generally thin and fine to very fine grained. The flows grade in and out, through fuzzy contacts, into fine flow top and bottom breccias, interflow hyaloclastite, fine breccia and microfex quench rims and contacts, which combined, constitute about 75% of the interval. The indication from flow contacts is that tops are down hole. There is an increase in the alteration and veining through the interval with an overall estimated dull grey quartz and white carbonate quartz vein, veinlet and fracture content of 6%. In veined areas, the colour becomes somewhat lighter to a mottled medium grey and greenish blue. Calcite continues to form the main carbonate mineral. The overall sulphide content remains low (trace) but increases in the vicinity of the veining; significant vein zones and structures are detailed below. The susceptibility continues to

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26278	17.82	18.73	.91	tr	.000	.000	nil
26279	18.73	19.35	.62	1	.001	.000	22
26280	21.72	22.72	1.00	1	tr	.000	9
26281	28.30	28.85	.55	1	tr	.000	5
26282	32.48	32.74	.26	tr	.000	.000	nil
26283	35.90	37.20	1.30	1	.001	.000	27
26284	42.70	43.70	1.00	tr	.002	.000	65
26285	49.37	50.00	.63	1	.000	.000	nil

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

fluctuate between 0.50 and 7.60 with a spike to 13.0 at 32.5m.

14.75 14.79 Quartz Carbonate Vein Zone - This is a dry white calcite -quartz vein @ 35 TCA with weak inclusions and vein parallel chloritic fractures and no visible sulphides.

17.82 18.29 Fault Zone - Partly a vein zone and partly structure, the FAZ is characterized by a 2mm gouge chlorite wafer that leads a 10cm Crush Carbonate Shear Fault @ 60/ 70 TCA; the balance of the interval comprises crushed carbonate veining and komatiitic host rock. The sulphide content of the zone is trace overall.

18.83 19.35 Quartz Vein Zone - With minor broken core in the centre and lower parts of the zone, the overall quartz content is about 20% and, sulphides, 0.5%. It occurs as dull to glassy grey veins as follow: at 18.83- 1893m, a fractured vein @ 40 TCA with 5% pyrite along fractures at the upper edge; at 19.17- 19.21m, a vein in broken core @ about 40? TCA with 1% fine disseminated sulphides over 5cm in the walls; and, at 19.28- 19.33m, a trailing vein @ about 55 TCA with 0.5% fine sulphides.

21.72 22.72 Quartz Vein Zone - This QVZ is much different from the previous veining and the veins that follow in that it wanders along TCA and has indistinct, sinuous contacts/ walls. It contains mottled patches of light orange and dull grey quartz with calcitic fractures and walls. There are also up to 0.5% fine sulphides in the zone.

24.80 24.84 Carbonated Zone - A white streaky calcite vein @ 20 TCA forms the core of the zone. It is followed for about 80cm down hole by calcite lined fractures and gashes with trace chalcopyrite.

26.10 28.10 Carbonated Zone - Not really a carbonate zone, it is actually a series of low angle white calcite veins and gashes to 1cm that amount to about 6% overall. There are trace sulphides over the interval with streaks of pyrite to 1% in vein fractures over a 30cm stretch of core at 28.40m.

28.10 29.00 Fault Zone - LOST CORE - The core here does not appear to be too badly broken, therefore, the lost core must be related to grinding on the low angle slips which may have caused some core to slip out of the tube.

32.57 32.65 Quartz Vein Zone - This is another zone of weak dull grey lacey quartz veining and silicification @ about 45 TCA with 0.5% sulphides.

35.90 37.20 Quartz-Carbonate Vein Zone - It is unclear as to the dominant structure with which the veining is associated. There are moderately strong Chlorite Slips @ 60 and about 10 TCA which both have parallel, related, quartz carbonate veins and gashes

From (m.)	To (m.)	Geology
		to 3cm made up of dull pink grey quartz with pale orange and white calcite patches and fractures. In addition, there are 0.5% scattered pyrite grains throughout.
37.66	49.47	Ultramafic Komatiite - At this point, the gross texture of the komatiite changes to a series of three? thick massive fine grained flows. Each flow begins with a massive fine to medium grained base which appears to fine down hole and ends in rubbly flow top or spinifex horizon indicating tops down. The massive sections of the flow are generally medium to dark grey blue coloured whereas the mixed textured flow tops are altered to medium grey with olive grey highlights and are often accompanied by increased fracturing and carbonate quartz veining as from 42.71 to 43.78m (25% with 1% pyrite). Thin (2-3mm) Gouge Slips @ about 35 TCA cut the core at 43.78, 44.30 and 44.50m, coinciding with some flow contacts. The MS values fluctuate between 0.40 and 10.0 with no particular correlation to flow features.
49.47	99.13	BASALT
		Through a natural rolling flow contact @ about 70 TCA, there is an abrupt change in flow chemistry to basalt/ basaltic komatiite. The flows are fine to very fine grained, massive, dark blue grey where relatively fresh and green tinged where altered. Flow contacts are much more poorly defined compared with the ultramafics occurring mainly as faint abrupt changes in colour with narrow, poorly defined, whispy, flow contact breccia features. In the upper sections of the basalt flows, prior to the altered zone, the MS values fall within an elvated range of 2.00 to 8.40. Sulphides consist of 0.5-1% fine disseminated pyrite cubes and grains that do not appear to be related to any structural or alteration features and the host is calcitic. Apart from a quartz veined section (with 1% pyrite) at 49.73 to 49.90m, with minor calcite stringers down hole, there is no significant veining until the main alteration zone.
57.30	71.48	Quartz-Carbonate Vein Zone - Although fairly high up in the hole, the appearance of the zone resembles that described in earlier logs and reports. Overall, it ranges from weakly altered over the leading metre, to moderately altered over most of the zone, to well altered/ bleached from 68.82 to 71.20m. It is only moderately fractured with 15% quartz/ quartz carbonate veining which is concentrated in sections described below. There is a noticeable drop in susceptibility range to 0.14- 0.47 within the altered zone that corresponds directly with the QCVZ; coincidently, the carbonate mineralization becomes predominantly ankeritic with only minor calcite in localized fractures. Mineralization, mainly pyrite with minor chalcopyrite, varies throughout the interval, perhaps averaging 0.5%, but relates fairly directly to the quartz veining.
57.39	57.68	Quartz Vein Zone - Just outside the core of the alteration zone,

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26286	56.60	57.30	.70	tr	tr	.000	15
26287	57.30	57.68	.38	1	.001	.000	41
26288	57.68	58.20	.52	tr	.000	.000	nil
26289	58.20	58.74	.54	1	.002	.000	57
26290	58.74	59.08	.34	1	tr	.000	5
26291	58.08	60.08	2.00	2	.000	.000	nil
26292	60.08	61.13	1.05	tr	.000	.000	nil
26293	61.13	62.19	1.06	1	.001	.000	45
26294	62.19	62.80	.61	tr	tr	.000	10
26295	62.80	63.54	.74	8	.003	.000	98
26296	63.54	64.05	.51	12	.004	.000	137
26297	64.05	65.17	1.12	tr	.000	.000	nil
26298	65.17	65.77	.60	5	.000	.000	nil
26299	65.77	66.97	1.20	tr	.001	.000	24
26300	66.97	67.20	.23	8	.001	.000	38
LC000	67.20	68.82	1.62	0	.000	.000	0
26301	68.82	69.58	.76	4	.002	.000	58
26302	69.58	70.41	.83	5	.002	.000	72
26303	70.41	71.50	1.09	4	.004	.000	130
26304	71.50	72.30	.80	1	tr	.000	3
26305	72.30	73.22	.92	1	.002	.000	53
26306	73.22	74.13	.91	1	.000	.000	nil
26307	74.13	75.35	1.22	tr	.001	.000	22
26308	82.29	83.07	.78	1	.002	.000	81
26309	83.07	83.88	.81	1	.006	.000	191
26310	83.88	84.52	.64	1	.002	.000	62
26311	84.52	85.35	.83	1	.009	.000	322
26312	85.35	86.00	.65	1	.003	.000	103
53464	86.00	87.00	1.00	tr	.002	.000	57
53465	87.00	88.00	1.00	tr	.011	.000	362
26313	88.00	88.50	.50	1	.010	.000	356

From (m.)	To (m.)	Geology
		there are 1.5 & 4.0cm light pink/ white calcite quartz veins @ 45/50 TCA. About 5% sulphides form halos around the veins but are absent from the basalt between.
58.25	58.74	Quartz Vein Zone - This vein, which also falls outside the core of the alteration, includes a 1.5cm central vein @ 35 TCA with a 2 cm thick elongate train/ tail of dull pinkish grey veining that meanders for 25cm along TCA. The veins and wall contain 4% pyrite as patches and disseminations.
59.08	60.08	Quartz Vein Zone - The change to ankerite as the dominant carbonate occurs at 59.02m, just ahead of this vein, in association with weak streaky carbonatization and silicification and 1% sulphides. Most of the quartz in this vein zone, appears to form an isolated blob measuring about 30cm in length that formed down hole from, and may be a conjugate vein? of, an 8cm thick fractured quartz vein @ 65 TCA at 59.58m. The remaining section from 59.63 to the end, comprises a mix of shreddy carbonate and quartz veining over about 25% of the overall interval, in a well fractured basaltic host. About 2% pyrite is scattered throughout the zone as fine disseminated grains and larger clots that range up to 1.5cm.
60.08	62.80	Basalt altered- Moderately to mildly altered and fractured, this interval contains only about 5% random dull yellow grey carbonate and quartz fracture fillings with 0.5% sulphides.
62.80	63.54	Quartz Vein Zone - Again, the quartz is more patchy and silicified rather then a well defined vein although there is a crude trend of the main quartz @ 15- 25 TCA. It is milky to creamy white with yellow white carbonate patches. A tight Chlorite Carbonate Fault @ 30 TCA at the start of the interval may constitute the controling structure for the veining. Compared with other vein zones, this one is well mineralized at approximately 8% sulphides which form as large blebs in fractures and as rims on the edges of the vein including a 0.5cm wide massive pyrite vein @ 40 TCA near the end of the zone. Pyrite is the main sulphide mineral, however, isolated brassy inclusions in the pyrite clots may indicate the presence of a minor amount of chalcopyrite; mm size, fairly hard, black acicular and triangle shaped grains in fractures in the veins may be tourmaline or silicified chlorite.
63.54	65.17	Basalt - The interval contains approximately 15% quartz veining, mainly along TCA in the centre of the section, and 0.5% sulphides. There is a section of ground core, most of which is missing, between 64.05 and 64.65m; there is no indication of a structure except for a Quartz Chlorite slip @ about 15 TCA located 15cm down hole from the lost core which may have had associated parallel slips in the area of the lost core. The host rock is mildly to moderately altered and fractured.

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
53466	88.50	89.53	1.03	tr	.007	.000	231
53467	89.53	90.55	1.02	tr	.001	.000	48
53468	90.55	91.24	.69	tr	.002	.000	74
26314	91.24	91.59	.35	1	.006	.000	218
53469	91.59	92.30	.71	tr	.001	.000	33
53470	92.30	93.50	1.20	tr	.003	.000	98
53471	93.50	94.54	1.04	tr	.000	.000	nil
26315	94.54	95.42	.88	1	.026	.000	907
53472	95.42	96.30	.88	tr	.003	.000	111
53473	96.30	97.25	.95	tr	.004	.000	146
26316	97.25	98.05	.80	1	.006	.000	206
53474	98.05	99.15	1.10	tr	.001	.000	24

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

65.17 65.77 Quartz Vein Zone This vein is much better defined then previous ones with a sharp leading contact on a Carbonate Graphite? Slip @ 25 TCA and a lower meandering contact at about 15 TCA. The vein is dull pinkish grey and contains 5% irregular dendritic and fracture controlled pyrite mineralization in the vein and walls.

65.77 67.20 Broken Blocky Core - Although the upper 20cm are competant, the remainder of the section is broken up along a series of fractures at low angles (15 degrees) TCA, culminating in over 1.6 m of lost core. The basalt is moderately to strongly fractured but only mildly to moderately altered, with trace sulphides, except for the trailing 20cm and a small pile of ground chips which are moderately bleached and contain about 8% pyrite. Overall, the core was recovered as small to 10cm angular chips and pieces.

68.82 71.50 Blonde Alteration Zone - This interval is well fractured/ crushed and also well altered/ bleached to a grungy light olive grey colour. In places, the fractures are filled with quartz carbonate vein material which spills over into the walls to form dirty grey patchy quartz veins and silicification amounting to about 20% overall. Approximately 5% sulphides (pyrite) also occurs in the bleached zone which ends in a series of Chlorite and Chlorite Gouge Slips and Faults @ 55 TCA.

71.50 74.13 Basalt Brecciated - The brecciation is a brittle deformation effect that appears to be associated with a Chlorite Slip that rolls for 1.5m along TCA, and that may reflect the presence of a Cataclastic Chlorite Fault along TCA. The remaining 1.5m is also fractured but lacks any noteable structure. Portions of the fragmental are moderately altered/ bleached to a yellow grey colour similar to the preceding section; the fractures are mainly chloritic with minor carbonate, quartz and pyrite, the latter of which may average 0.5%. The alteration and deformation decrease towards the end of the interval and continue to decrease down hole until the basalt becomes relatively fresh. It is near the start of this interval that calcite starts to fill some fractures and at 73.53m that ankerite is replaced by calcite as the dominant carbonate mineral.

74.13 99.13 Basalt Basaltic Komatiite - From this point on, there is a resumption of the mildly altered and fractured basalt/ basaltic komatiite. The unit continues to be dominated by very fine grained massive flows with minor flow contact and intraflow breccia features. The colour is a fairly consistent medium to dark bluish grey with local greenish tinges. Approximately 3-5% fine pale orange/ pink and white veinlets/ fractures and larger veins of calcite to 2cm cut the core at various angles TCA. Minor dull grey streaks of quartz, as well as a 20cm wide patchy

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		dull white quartz vein and silicification @ 25 TCA at 88.14-88.40m, amounting to about 1% overall, also cut the basalt. Sulphides, as scattered grains and clots constitute <0.5% but become concentrated, generally around fractures, to 2% over 10-20cm as at 82.40, 82.75, 83.60, 84.70, 85.70 and 91.40m. MS values fall mainly within a narrow range between 0.30 and 0.55 with occasional higher values to 10.0, except for a section between 91.0 and 96.0m which climbs to a slightly rolling plateau in the high 20's.								
	94.54 95.42	Quartz-Carbonate Vein Zone - Not terribly strong with perhaps 25% combined veining, the zone comprises a sinuous quartz vein over the leading 35cm followed by elongate blebby silicification and a trailing 2-3cm wide pale pink calcite vein @ 15 TCA. The walls of the veins and the host contain 1-2% sulphides as streaks and scattered grains.								
	96.20 97.25	Fault Zone - This is more of a Strong Chlorite Slip that follows TCA but has apparently off set a high angle dull grey 8cm wide quartz vein about 1m from 96.40 to 97.52m down the hole. The zone carries with it about 0.5-1% blebby sulphides and an additional 1-2% over the next 0.75m below the interval.								
99.13	103.02	TUFF								
			53475	99.15	100.20	1.05	tr	tr	.000	12
		A distinctive change in texture and colour marks the change to the tuffaceous unit on sharp natural contacts @ 35 and 25 TCA. The tuff is characterized by a more granular looking, fine to medium grained texture with a weak foliation fabric @ about 40 TCA. Evidence of bedding includes: a lower contact that overlies a flow top? breccia layer; an internal fine breccia bed at 100.14- 100.20m; and, a series of variably textured and grained beds between 100.44 and 101.05m in which the bedding angles are relatively consistent @ about 40 TCA. The overall colour of the tuff is light to medium grey with local greenish and pinkish tinged zones. The MS values fall within a uniform range of 0.20- 0.30. The unit is pervasively calcitic with approximately 2-3% veining and a sulphide content of trace.								
103.02	112.80	ULTRAMAFIC								
		As mentioned above, the contact between the tuff and ultramafic is natural. The ultramafic is soft (talcose), massive, fine to very fine grained and blue black in colour. It is cut by a lacey to shreddy network of 7% white carbonate and light waxy green talc veinlets and fractures. The carbonate mineralization is spotty/ erratic in which the veinlets in some sections are ankeritic with minor calcite mixed in and vice versa in others. Alteration and fracturing are mild to moderate but are sufficient to mask most original textures. MS values immediately rise to an elevated range around 20 with lows of 1 adjacent to the MI's and spikes of 40 in massive sections. Mineralization is trace overall with the odd local cluster of coarse cubic								

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

pyrite scattered through the section. A 7cm thick fine grained felsic dike or tuff lense cuts the ultramafic with sharp contacts a @ 40 TCA (natural) and 45 TCA (gouge slip) at 103.43m.

103.40 104.06 Broken Blocky Core - The broken core follows a sequence of Talc Chlorite Slips that culminate in a 4cm Gouge Fault, all trending @ about 45 TCA.

109.67 111.19 Tuff - With a natural leading contact @ 85 TCA and a trailing contact on a weak Chlorite Slip @ 60 TCA, the tuff is similar to the previous unit at 99.13m. It is light to medium tan grey in colour, very fine grained with flattened 0.5cm black streaks/ fragments near the start, becoming finely fragmental/ gritty from 110.70 to 111.00m, and, fine grained to the lower contact. The fragments range up to 1cm in size and are mainly dull grey, dark grey green and medium green grey in colour. MS values begin at 3.00 and gradually drop to 0.30, sulphides are anomalous but <0.5% and the tuff is pervasively calcitic. Internal structures and fabric trend @ about 45 TCA.

112.15 112.42 Fault Zone - The zone comprises chips and gouge with contorted/ fractured ultramafic and carbonate veining, apparently at a fairly high angle TCA.

112.80 119.45 MAFIC INTRUSIVE

The upper contact of the MI is ragged/ irregular but natural @ about 55 TCA. The overall colour is a fairly consistent dark charcoal to brownish grey, however, the texture varies slightly throughout indicating the presence of several phases or pulses or internal textures. The upper section is medium to fine grained for the main body of the zone but fines for the last 0.5m prior to a contact with an ultramafic sliver at 112.64m. In the coarser section, scattered elongate black amphibole? grains are visible in a finer grained, grey, felted groundmass. The upper contact appears natural in part and also on a Chlorite Carbonate Slip @ 65 TCA. The ultramafic inclusion, which extends from 112.64 to 115.73m, is more coarse textured then the main body of the ultramafic and also harder in that it does not scratch as easily (ie, not as talcose).

The next section, from 115.73 to 117.43m, is fine to very fine grained, with an irregular, chilled, upper contact @ 35 TCA, and a similar chilled lower contact with a wedge of ultramafic, also @ about 35 TCA. The MI following the 12cm wide ultramafic starts fine grained, following a sharp partly natural, partly slip controlled contact @ 25 TCA, and then lightens slightly to medium grey and assumes a speckled, more medium grained aspect. The last metre of the dike becomes fine grained to aphanitic following a gouge zone. The lower contact with the following ultramafic falls on a Gouge Slip @ 40 TCA.

Overall, the susceptibility of the MI is completely consistent at 30.0. As

From (m.)	To (m.)	Geology

mentioned, there are anomalous sulphides disseminated through the MI, but much less than 0.5%; about 0.5% fine dull white carbonate veinlets and the carbonate in the groundmass, are calcitic in composition.

119.45 184.75 ULTRAMAFIC ULTRAMAFIC KOMATIITE

At this point, there is a return to the ultramafic as described above. A noteable difference between the previous 4U unit and the current one is that it is talcose to about 123.75m, at which point it becomes harder, but still scratchable, and generally less fractured. The colour remains dark blue grey/ black with local greenish tinges and the grain size, fine to very fine. Locally, flow features such as spinifex, contact and flow top breccias, and polyhedral/ polysuture jointing are evident, however, there was no attempt made to to pull out and describe these features separately. Most of the unit consists of the harder, massive, very fine grained flows; the more talcose sections occur in areas that are more fractured and veined.

The core is cut by 2-3% fine talc/ calcite and calcitic veinlets and fractures, calcite being the dominant carbonate mineral, and by trace sulphides. The MS values undulate between about 1.00 and 30.0 over the first 18m and then rise to a higher range of 20.0 to 45.0 below 138.00m.

128.29 130.46 Basalt Pyroclastic - This interval seems to comprise a series of fine grained flows with intraflow breccias. The colour is slightly lighter grey with a brownish and bluish tinge. Contacts are sharp on weak Mud Talc Slips @ about 60 TCA. MS values are in the lower range of the ultramafics (0.40- 6.10) but the flows appear to be of a mafic composition.

134.06 134.57 Fault Zone - This zone is intensely crushed and has been largely converted to talc chlorite. The leading contact is sharp on a tight Mud Slip @ 50 TCA and the structure ends on a 1cm Gouge Fault @ 70 TCA.

170.54 170.78 Fault Zone - As above, this FAZ is characterized by intense crushing over most of the zone, again culminating with a 1-2cm Gouge Fault @ about 60 TCA.

182.75 183.56 Basalt - Caught up within the lower section of the ultramafic package is a basaltic (komatiite?) flow with sharp, natural contacts @ 35 TCA. The flow is very fine grained overall with a slightly coarser section, but still fine grained, around 183m. Since the tops appear to be down hole from textures higher up in the hole, it would indicate that this flow actually is near the top of the ultramafic sequence. The colour is tinted slightly browner than the 4U as well and the MS value is 1.00.

183.56 184.75 Ultramafic Komatiite - The trailing ultramafic flow, which stratigraphically, is the uppermost flow of the sequence,

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26317	120.50	120.85	.35	1	.001	.000	17
26318	184.73	185.82	1.09	tr	.001	.000	21

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		exhibits the typical dark blue grey colour and is capped with a thin flow top breccia.								
184.75	187.25	FELSITE								
		The leading contact of this unit is sharp but irregular, partly on a quartz carbonate vein and partly natural @ about 60 TCA. However, the protolith at the start of the interval is unclear; it may be an aphanitic to fine grained felsic flow since it appears to conformably overlie the ultramafic sequence but chemically, it seems out of place. More likely, it is a two phase felsic intrusive, with a leading aphanitic phase to 185.91m at which point it was reintruded by a medium grained, weakly porphyritic phase @ about 20 TCA. Both sections are medium grey in colour with pinkish overtones, and in addition, the lower segment has a lighter spotted/ speckled aspect which reflects the weak porhyritic texture. The lower contact falls along a weak Chlorite Slip @ 55 TCA that is preceded by a narrow 4cm zone of 5% disseminated pyrite and pyritic trains parallel with the contact. MS values *in the aphanitic phase range between 4.00 and 10.0, wheras in the* porphyritic zone, they are constant at about 4.00. Fine calcitic fracture fillings and fine veinlets account for <0.5% of the interval and sulphides average between anomalous and 0.5%.	26319	185.82	186.64	.82	1	.001	.000	26
			26320	186.64	187.30	.66	1	tr	.000	2
187.25	227.34	BASALTIC KOMATIITE BASALT								
		As mentioned above, the leading contact is on a chlorite slip which has apparently induced a parallel foliation over 40 cm of the first flow. The bulk of the interval comprises a series of massive and pillowed flows with narrow lenses of interflow, granular textured tuff and fine lapilli tuff. The massive flows are fine to very fine grained overall, however, some of the thicker flows begin to exhibit a slight coarsening of the grain size in the centre. Pillow selvages appear as darker green black stripes or bands that are often curved. Overall, the colour is dark grey green to blue grey; some of the bluish hued sections, particularly over the upper section to 195.0m may indicate the presence of interbedded ultramafic flows. As with the ultramafic package, no attempt was made to differentiate individual flows or units.	26321	195.20	195.83	.63	1	tr	.000	10
			26322	197.76	198.08	.32	1	tr	.000	12
		The mafic flow sequence is cut by about 2% dirty white to yellowish grey calcite veinlets and streaks as calcite continues as the dominant carbonate mineral. Sulphides remain trace and the susceptibility is completely erratic, bouncing between 0.40 and 40.0.								
		195.00 197.95 Feldspar Porphyry - The leading contact is partly lost in a narrow section of broken core but appears natural intrusive. The porphyry somewhat resembles that of the KIrkland Lake camp in that it is finely porphyritic with 1-2mm white and dull grey, subhedral feldspar phenocrysts occupying 40-50% of the host within a fine grained medium grained groundmass. Also in the grondmass are fine dark green mafic grains and 0.5% dark								

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

green grey mafic inclusions to 3cm. The porphyry also hosts a fine dusting of disseminated pyrite that totals well below 0.5% overall. Apart from a ragged Chlorite Calcite Slip @ 15 TCA near the start of the dike, and an irregular 1cm wide dull white quartz calcite vein @ 25 TCA that forms the lower contact of the intrusive, there is no significant fracturing or veining in the interval. Both of these structures however, contain about 2% pyrite over 10cm in the walls. Although the dike appears homogenous, the MS values range between 1.5 and 6.3 with a local spike to 18.

227.34 251.50 ULTRAMAFIC

Through a leading contact on a 0.5cm Mud Gouge Fault @ 40 TCA, there is a noticeable and abrupt change in colour and texture indicating a return to the ultramafic suite. In the host, the colour becomes dark blue grey/ black, the core talcose and soft, the fracturing and subsequent veining increases to approximately 5% comprising a network of lacey unoriented veinlets and threads. The sulphide content is trace throughout and the veining calcitic. MS values range between 12.0 and 48.0 but average in the high 30's.

244.59 245.86 Mafic Intrusive - The MI exhibits sharp contacts @ 45/ 60 TCA. Overall, it is fine grained, medium to dark brownish grey with 7% black mafic inclusions that have fuzzy rims, and a groundmass that is pervasively calcitic. The MS signature is fairly consistent at 23.0.

251.50 257.38 MAFIC INTRUSIVE

The upper contact of the MI, which is sharp, natural @ 55 TCA, exhibits a fine grained contact halo that has a dark reddish grey caste for 25cm downhole. This colouration is repeated at an internal contact (@40 TCA) with an inclusion of ultramafic at 253.23m. The entire dike seems to grade in and out of various phases, all of which are fine grained, but that are distinguished by slight changes in colour tones ranging from the dark reddish grey of the contact phases, transitionally through dark brownish grey, to slate grey in fresher sections and to a medium to dark grey where mildly altered. In places, the texture coarsens and fines with distance from internal contacts with the ultramafic inclusions. The MI is cut by about 0.5% white calcite filled fractures, and, locally, is pervasively calcified. MS values are fairly consistent within a range of 3.00 and 8.00; sulphides (pyrite) are weakly disseminated through the dike but amount to trace overall. The trailing contact is sharp, natural @ 45 TCA.

257.38 258.97 ULTRAMAFIC

26323	258.00	259.00	1.00	tr	.000	.000		nil

At this point, there is a return to a short interval of typical ultramafic host as described above, ie., soft/ talcose, green black, fine grained, with

From (m.)	To (m.)	Geology

a weak fracturing/ foliation @ 55 TCA (calcite filled) and trace pyrite overall but with some localized disseminated patches.

258.97 284.87 PYRITIC SILICIFIED ZONE FELSITE

Because of the strong silicification and alteration that overprints the host, it is difficult to identify the original protolith. In part, it appears to exhibit the characteristics of a fine grained felsic intrusive, in others, faint textures of a possible ultramafic host are evident, and in places, it is fine grained and massive to weakly foliated, perhaps indicating a basaltic flow origin. These phases will be described separately below. Overall however, the colour is a mottled light olive/ yellow grey which reflects the altered/ bleached and silicified nature of the host. The entire interval is hard (does not scratch) indicating almost 100% silicification and patchy dull grey quartz veining. Apart from 2.2m at the start which are calcitic, the remainder of the zone is strongly ankeritc, both in the matrix and the veining. The most unusual aspect of the unit is the extremely high sulphide content, which is remininscent of Kerr Addison-type flow ore, and ranges from about 1% at the start to 10% near the end with and estimated average of 4-5%. The susceptibility ranges between about 3.00 near the start to 0.05 near the end.

258.97 261.27 Basalt (altered)- The leading contact, although moderately fractured (early weak tectonic crushing of the contact because of competency contrast?) is natural @ 55 TCA. The host appears to comprise a fine grained, massive, mafic flow that has been moderately altered and partly silicified and mineralized with an average of 2% fine disseminations and trains of pyrite. The colour is medium to light grey with green and pinkish overtones. To this point, the carbonate in the matrix and veinlets is calcite; MS values range between 0.23 and a spike of 9.73.

261.27 262.80 Felsite Basalt (silicified) - There appears to be a sharp leading contact @ about 45 TCA with the basalt but one gets the impression that the lithology remains the same and that the silicification has become more pervasive. The entire section is hard, fine grained to aphanitic, moderately fractured, mainly @ about 20 TCA with an abrupt and complete change to ankerite the vein and matrix carbonate mineral. Sulphides range from trace to 1% and the susceptibility, between 0.56- 3.12.

262.80 263.08 Felsite - This interval is bracketed by sharp undulating contacts @ 35 and 40 TCA and is interpreted as a felsic dike. It is strongly silicified and well mineralized with 5% pyrite. The colour is a light tan grey.

263.08 263.90 Carbonated Ultramafics - In this instance, although well silicified at the start, the nature of the ultramafic

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26324	259.00	260.00	1.00	3	.002	.000	63
26325	260.00	261.00	1.00	1	.002	.000	59
26326	261.00	262.00	1.00	1	tr	.000	5
26327	262.00	262.80	.80	1	.001	.000	26
26328	262.80	263.80	1.00	2	.000	.000	nil
26329	263.80	264.80	1.00	2	tr	.000	2
26330	264.80	265.80	1.00	1	.002	.000	55
26331	265.80	267.00	1.20	2	tr	.000	3
26332	267.00	268.00	1.00	3	.001	.000	31
26333	268.00	269.00	1.00	2	.001	.000	33
26334	269.00	270.00	1.00	3	.001	.000	22
26335	270.00	271.00	1.00	5	.001	.000	34
26336	271.00	272.00	1.00	2	tr	.000	5
26337	272.00	273.00	1.00	1	.001	.000	39
26338	273.00	274.13	1.13	4	tr	.000	7
26339	274.13	275.23	1.10	4	tr	.000	2
26340	275.23	276.14	.91	1	tr	.000	7
26341	276.14	277.05	.91	5	.001	.000	24
26342	277.05	278.00	.95	1	.001	.000	48
26343	278.00	279.00	1.00	5	tr	.000	2
26344	279.00	280.00	1.00	7	.003	.000	87
26345	280.00	281.00	1.00	9	tr	.000	3
26346	281.00	282.00	1.00	10	.002	.000	70
26347	282.00	283.00	1.00	10	.001	.000	33
26348	283.00	283.75	.75	7	.003	.000	110
26349	283.75	284.40	.65	8	.003	.000	108
26350	284.40	284.87	.47	15	.001	.000	21

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

protolith becomes better defined near the end of the interval where the colour changes from a pinkish tan to a medium grey green. The host is weakly foliated @ about 45 TCA. There is a corresponding drop in the sulphide content from 2% to 0.5% with the decrease in alteration. The trailing contact is well defined @ 45 TCA.

263.90 265.68 Felsite - With the abrupt change in texture, to aphanitic and siliceous, and change in colour to light mottled tan and grey, there is an interpreted intrusion of another felsic dike in which the sulphides average 1-2%. MS values start at about 0.10 and rise to 1.60 by the end.

265.68 274.14 Carbonated Ultramafics - The upper and lower contacts are sharp but somewhat undulating @ 35 TCA. Both contacts are pinkish altered over about 30cm indicating possible incipient alteration whereas the main body of the unit is altered to patches of blending shades of light grey and tan. Although well altered and silicified, a crackley/ fractured fabric/ texture resembling carbonated ultramafics penetrates the overprinted features. The overall sulphide content in the form of disseminations, trains and fracture fillings of pyrite, increases to 3%. MS values are variable but seem to range between 1 and 3 on the flanks and hover around 0.10 in the centre of the zone.

274.14 275.24 Basalt - This interval is similar to the basalt at the start of the PYSZ. It is fine grained, massive to mildly foliated @ 45 TCA and light green grey in colour. Also weakly silicified, it contains about 4% finely disseminated pyrite; the susceptibility varies from 0.23 to 3.00. The lower contact is sharp but slightly wavey @ 60 TCA.

275.24 284.40 Pyritic Silicified Zone Carbonated Ultramafics - The silicification (100%) in this interval becomes so strong in places, that quartz sweats and veins start to form. Associated with the silicification is the strong possibility of pervasive albitization. As with the carbonated ultramafic unit at 265.68m, some of the host rock textures are faintly visible in places allowing this tenuous interpretation of the protolith. The overall colour is light yellow grey with local pale tan/ pink overtones that may indicate a phase of incipient alteration. Mineralization, in the form of fine disseminations, streaks and fracture fillings of pyrite increases to an average of 7-8%. In addition, from approximately 281.0m to the end, several fractures and scattered mm size shards of graphite moly were noted. MS values decline rapidly from 1.7 at the start to a trough consistently below 0.10 from 279.0m to the end.

284.40 284.87 Pyritic Silicified Zone - The leading 10cm, the contact of

From (m.)	To (m.)	Geology
		which is sharp @ 40 TCA, comprises a sliver/ inclusion of sheared (@40) carbonated ultramafic identical to the code 4 ultramafic unit below (chlorite carbonate schist). The remainder of this interval which ends the overall pyritic silicified zone consists of a strongly silicified, medium grey, highly pyritic (15%) felsite?. Contacts are sharp parallelling the foliation fabric @ about 40 TCA in the ultramafics. The susceptibility remains low at 0.10.
284.87	293.15	START OF DEFORMATION ZONE CARBONATED ULTRAMAFICS A very distinctive change in rock type and degree of deformation occurs down hole from the PYSZ which marks the start of the Larder Lake Break. The entire zone is sheared @ about 45 TCA, locally to the point where a spindly, lapilli like texture, possibly a mylonitic (286.34m) texture developes. From 288.55m, there are a number of fold structures observed in the zone along with an increasing abundance of light olive/ yellow grey altered patches which contrast with the more chloritic dark grey green upper section. The textures and fabrics are defined throughout by slivers/ streaks of dull grey carbonate; ankerite forms the main carbonate mineral of the streaks, veinlets and matrix over the interval. The protolith although strongly deformed, has the characteristics of an ultramafic (komatiite?) similar to those along other parts of the Larder Lake Break as at the Kerr mine and the main Queenston property. Although not identifiable here, good spinifex textures are recognizable lower down in the hole (around 316m) below the main mylonite zone. Within the the interval, there are a few odd alteration and mineralized features that are noteworthy. An 11cm wide streaky medium grey and tan felsitic dike cuts the ultramafic @ 45 TCA at 286.56m. The leading section to 287.10m, including the dike, contains about 1% disseminated sulphides (pyrite) in contrast with the remainder of the section which runs trace. An exception is a narrow 5cm wide silicified zone at 289.40m which contains about 2% pyrite over 10cm and is rimmed with whispy patches of light emerald green carbonate/ fuchsite, the only green carbonate observed in the hole. From 290.00 to 290.41m, there is a strongly altered zone with sharp contacts @ 45/ 50 TCA with chloritic phases which appears to represent an early phase of alteration of the host that has reacted as a massive unit during later deformation and alteration. MS values throughout the interval fall within a very narrow range between 0.22 and 0.33.
293.15	302.73	FAULT ZONE CARBONATED ULTRAMAFICS The upper contact of the FAZ is somewhat gradational but was basically taken at the start of mild crushing ahead of a moderately silicified zone (293.40-293.57m). Overall, the interval grades in and out of crushed and mylonitized carbonate, the fabric of which trends @ 45- 55 TCA. In places, it is evident that early folded carbonate veins and other features were broken up by the faulting. The overall colour is a patchy light olive to yellow grey. Apart

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26351	284.87	285.85	.98	1	.002	.000	62
26352	285.85	286.60	.75	1	.003	.000	116
26353	286.60	287.13	.53	1	.001	.000	29
26354	287.13	288.27	1.14	tr	tr	.000	9
26355	288.27	289.20	.93	tr	.000	.000	nil
26356	289.20	289.50	.30	1	.000	.000	nil
26357	289.50	290.68	1.18	tr	tr	.000	2
26358	290.68	291.97	1.29	tr	.000	.000	nil
26359	291.97	293.15	1.18	tr	.001	.000	27
26360	293.15	293.70	.55	1	.002	.000	73
26361	293.70	294.50	.80	tr	.001	.000	39
26362	294.50	295.53	1.03	tr	.000	.000	nil
26363	295.53	296.70	1.17	tr	.000	.000	nil
26364	296.70	297.87	1.17	tr	.001	.000	34
26365	297.87	299.00	1.13	tr	.000	.000	nil
26366	299.00	300.28	1.28	tr	.001	.000	33

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		from about 0.5% pyrite associated with the upper patch of silicification and a few grains and trains of pyrite scattered through the host, the sulphide content is trace. All carbonate is ankeritic and MS values continue to be confined to a narrow range of 0.22 and 0.32.	26367	300.28	301.48	1.20	tr	tr	.000	9
			26368	301.48	302.72	1.24	tr	.000	.000	nil
			26369	302.72	303.50	.78	tr	.000	.000	nil
302.73	305.21	ULTRAMAFIC								
		A 3cm quartz carbonate vein @ 60 TCA marks the abrupt change to a chlorite carbonate schist/ foliated unit the fabric of which is moderately developed and trends approximately @ 50 TCA. The overall colour is dark greenish grey to black with the foliation being defined by whispy dull grey/ green ankerite. In places, the core scratches easily and is weakly talcose. Sulphides are trace; MS values slightly higher at 0.32 to 0.73.	26370	303.50	304.90	1.40	tr	tr	.000	5
			26371	304.90	306.00	1.10	tr	.000	.000	nil
305.21	307.90	MAFIC INTRUSIVE								
		The chloritic zone is separated from the following carbonated ultramafic by a series of mafic intrusives which in turn are divided by thin wedges up to 30cm thick, of chlorite carbonate schist as described at 302.73m. The dikes all intrude with sharp well defined contacts at: 305.21- 305.71m @ 40/ 65 TCA with rolling contacts; 306.14- 306.48m @ 45/ 55 TCA; 306.61- 306.78m @ 40/ 30 TCA with irregular lobed contacts; 306.98- 307.90m @ 40/ 40 with a serated lower contact. An odd characteristic of the MI's is that they lighten in colour, from a speckled medium brownish- olive grey at the start to light to medium grey to tan grey near the end, in contact with the more altered carbonated ultramafics that follow. Sulphides average trace overall although a few large pyrite grains are visible, and, the susceptibility falls within a fairly narrow range of 0.19- 0.23 despite the changes in alteration. It must be noted that these MI's do not resemble those higher up in the hole at 251.50m and may more appropriately be called intermediate intrusives.	26372	306.00	307.00	1.00	tr	.001	.000	19
			26373	307.00	308.00	1.00	tr	tr	.000	12
307.90	319.06	CARBONATED ULTRAMAFICS								
		The overall interval is very well carbonated, probably 80%, all ankeritic, and is characteerized by a jumble of textures and structures which have been described in one or another of the previous ultramafics following the PYSZ. They range from foliated to crushed, approaching mylonitic, to shreddy and chloritic, and also include narrow felsitic dikes with silicified patches as at 310.08- 310.26m, 312.06- 312.24m, 312.40- 312.51m, and 315.26 315.81m as well as several narrow (2-4cm) dike slivers. Most of these felsic dikes are light tan grey in colour and have contacts conformable with the fabric @ about 60 TCA. The overall colour of the carbonated ultramafic zone is light to medium olive grey, the shades varying with the degree of alteration. The intensity of the deformation seems to decrease towards the lower 3m of the interval where spinifex and flow breccia textures are well displayed. Several distict dull white quartz carbonate veins to 3cm, some with minor sulphides, cut the core at 308.20, 310.81, 311.85, 315.25, and 316.23m. The	26374	308.00	309.20	1.20	tr	.000	.000	nil
			26375	309.20	310.10	.90	tr	tr	.000	5
			26376	310.10	311.00	.90	tr	.000	.000	nil
			26377	311.00	311.72	.72	tr	tr	.000	2
			26378	311.72	312.64	.92	tr	.000	.000	nil
			26379	312.64	313.70	1.06	tr	tr	.000	15
			26380	313.70	315.00	1.30	tr	.000	.000	nil
			26381	315.00	315.83	.83	tr	.004	.000	123
			26382	315.83	317.00	1.17	tr	.001	.000	21
			26383	317.00	318.00	1.00	tr	tr	.000	12
			26384	318.00	319.10	1.10	tr	tr	.000	12

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		MS values of the carbonated ultramafics continue to fall into a very narrow range between 0.26 and 0.37 while those of the dikes is 0.11- 0.17.								
319.06	327.00	GREYWACKE CONGLOMERATE								
		The leading contact of the sedimentary package seems to fall on a Chlorite Slip @ 60 TCA although there are several other chloritic slips as well as strong crushing and dull olive grey bleaching to 319.45m that impart a resemblance to the carbonated ultramafic over the leading section. The remainder of the interval is clearly sedimentary with fine grained greywacke and siltstone? forming the upper section to 322.32m and a trailing zone from 325.96m to the end; a coarse grit/ fine conglomerate forms the middle section. The upper greywacke unit comprises thick beds of granular textured, fine grained, light grey wacke interbedded with thick to very thin laminae and lenses of very fine grained, medium slate grey siltstone. In places, thin, elongate, dark grey rip- up clasts and slivers of siltstone are evident in the wacke. From a graded bed at 322.0m and the presence of silty clasts in the conglomerate, it appears that tops are down hole.	26385	319.10	319.71	.61	tr	.003	.000	113
			26386	319.71	320.50	.79	tr	.010	.000	348
			26387	326.00	327.08	1.08	tr	.001	.000	29
		The conglomerate/ grit layer comprises an apparent mix of volcanic clasts only (including the silty fragments) which exibit a variety of compositions as indicated by the different colours; noticeably absent are any pink or red pebbles, granitic, trachytic, porphyritic or otherwise. The conglomerate is mildly to moderately altered to an overall light grey/ blue grey which has partly obscured the original colours of the clasts, however, they include: light yellow; various shades of light grey and medium grey; buff; and dark grey. They are generally elongate, very fine grained, unsorted, mm to 3cm in size, sub rounded and matrix supported. One small clast seems to contain fine spinifex texture.								
		Except for the the altered and fractured upper contact zone which contains 0.5% pyrite, and odd scattered grains, the sulphide content is trace in the sedimentary unit. The fine lacey carbonate veinlets and matrix alteration are ankeritic; MS values range from 0.14- 0.27.								
327.00	334.60	CARBONATED ULTRAMAFICS								
		The upper contact of the carbonated ultramafic zone falls on a 3.5cm laminated quartz graphite vein @ 55 TCA. The rock is strongly contorted over both the leading and trailing 1.5m of the interval, and, well crushed in places, approaching mylonite texture (@ 60 TCA), along with local contorted sections, in the centre. Alteration ranges from strong to moderate as indicated by the colour which is a streaky light greyish yellow (sericitic?) where well altered and darker grey green, more chloritic, in lesser altered sections. The general appearance of the interval is similar to the carbonated ultramafics at 307.90m and those following the PYSZ, however, the carbonate streaks/ shreds that define the textures seem to be a little more feathery/ whispy. The overall impression is that this unit may constitute an eroded and redeposited ultramafic. This is partly supported by the	26388	327.08	328.20	1.12	tr	tr	.000	15
			26389	328.20	329.50	1.30	tr	tr	.000	10
			26390	329.50	330.70	1.20	tr	.000	.000	nil
			26391	330.70	332.15	1.45	tr	.000	.000	nil
			26392	332.15	332.60	.45	tr	.000	.000	nil
			26393	332.60	333.70	1.10	tr	.000	.000	nil
			26394	333.70	334.60	.90	tr	tr	.000	14

From (m.)	To (m.)	Geology

stratigraphic position interbedded with the greywacke and the inclusion of two greywacke lenses within this unit at 332.54- 333.26m and 334.07- 334.60m. The contacts of the upper sedimentary lense fall on a 2cm quartz vein with chloritic walls @ 30 TCA and chlorite slip @ 40 TCA; those of the lower lense on a curved chlorite slip @ 70 TCA and a rolling natural looking contact @ 65 TCA. It may be, that the leading and trailing contorted sections, may indicate dragging on the contacts of an ultramafic wedge that has been faulted into the sediments.

The overall sulphide content is trace although there are local anomalous disseminations and streaks of pyrite along fractures. A section of 35% quartz carbonate veining @ 45- 60 TCA between 332.15 and 332.56m also contains trace sulphides. Ankerite continues as the main carbonate mineral; MS values continue to fall within a narrow range of 0.21- 0.31.

334.60 338.43 GREEN CARBONATE ZONE

Despite being called green carbonate, this unit does not have the appearnce of the typical green carbonates associated with the Larder Lake Break at the Kerr mine or the Queenston properties. The dull olive green and weak apple green colours indicate a lower degree of alteration than many other occurences. There is also a distinct lack of the strong deformation and accompanying carbonate alteration and streaking/ veining that is present in the upper carbonated ultramafics though much of the interval is moderately foliated @ about 45 TCA. Many of the primary textures appear to have been preserved including massive sections (flows?), fragmentals, and microspinifex. Between 335.88 and 336.50m is relatively massive, but finely spotted; this is followed by a 6-8cm microfex zone and 30cm breccia and capped by an irregular 1-2cm carbonaceous lense perhaps forming a complete flow sequence. However, there are also graphitic sections, areas foliated along bedding? features, and granular textured zones that seem to be of sedimentary affinity.

Although still ankeritic, the overall carbonate veining and matrix component appears to have decreased compared with earlier intervals. Sulphides remain at trace, and, MS values, steady, at 0.27- 0.32.

338.43 356.35 GREYWACKE SILTSTONE CARBONACEOUS SEDIMENTS

The leading contact occurs on a 4cm Crush Quartz Graphite Fault @ 45 TCA. From the fault to 342.15m, the greywacke is moderately altered/ bleached as massive patches and streaks to a light yellow grey colour. Some of these patches may comprise ultramafic lenses, or, greywacke with a high ultramafic component. There is also a strong to moderate fracturing and foliation fabric @ about 45 TCA developed in conjunction with the alteration; both alteration and deformation decrease down hole from this point.

Overall, the greywacke is fine to very fine grained, light grey in colour, thick bedded with beds ranging from 2cm to about 40cm; these are

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26395	334.60	335.74	1.14	tr	.000	.000	nil
26396	335.74	336.91	1.17	tr	tr	.000	2
26397	336.91	337.61	.70	tr	.000	.000	nil
26398	337.61	338.40	.79	tr	tr	.000	2
26399	338.40	339.25	.85	tr	tr	.000	10
26400	353.08	354.00	.92	tr	tr	.000	2
26401	354.00	355.48	1.48	tr	tr	.000	5

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

interlayered with beds of very fine grained to aphanitic siltstone and carbonaceous siltstone. The latter units range from medium grey to dark grey/ black with increasing graphite content. Bedding dips average between 50- 60 TCA but are noted as shallow as 30 and as steep as 70 TCA. Several apparently graded beds from 347.50 to 348.30m, indicate that tops are up hole, totally opposite from determinations from the komatiitic package.

As mentioned above, fracturing and veining decrease down hole from the end of the stronger alteration at 342.15m. Vein and matrix carbonate are ankeritic throughout; apart from some erratic values to 0.66 in the altered upper section, the susceptibility is confined within a lower range of 0.12 to 0.21.

253.10 255.48 Greywacke (altered/ fractured) - This section of the greywacke is moderately altered and fractured @ 35- 50 TCA with chlorite and whispy carbonate as fracture fillings. Sulphides become anomalous (<<0.5%) locally but still average trace overall. The zone ends abruptly on a tight slip @ 75 TCA.

356.35 362.20 CARBONACEOUS SEDIMENTS

26402	362.00	362.45	.45	tr	.000	.000	nil	

The zone starts with a 20cm section of black siltstone/ argillite on a sharp natural contact @ 75 TCA. It then alternates between light grey greywacke, which constitutes most of the interval to 357.96m, and medium grey siltstone with the odd sliver of black graphite. From this point to 360.41m, the host comprises a 1m core of massive, blue black, carbonaceous siltstone with flanking banded and streaky/ foliated mixed graphitic siltstone/ siltstone and the trailing 1.5m of mixed bands of siltstone and greywacke with graphitic slivers. It should be noted that these carbonaceous sediments are, as the name implies, fine very grained/ aphanitic sediments (siltstones) with a variable graphitic component, one that does not reach 100%. When scratched, the powder is medium grey, however, a number of slips are highly graphitic and black. The sulphide content is trace and the carbonate in the veining and matrix, ankeritic. MS values range between 0.09 and 0.29.

362.20 377.76 GREYWACKE

From the contact to 362.46m, the core is cut by 75% dull grey quartz carbonate patches and rolling veins @ 30/ 70 TCA. Sericitic and chloritic streaks and fractures between the veins contain about 2% sulphides over 26cm. Apart from the alteration accompanying this veining, there is no significant alteration associated with the greywacke unit. Overall, the wacke grades back and forth between fine grained and coarse gritty phases with clasts up to 1cm except near the lower contact where they range up to 2.5cm. It is massive with weak bedding features @ 45 TCA and truncated cross- bedding @ about 35 TCA at 370.60 & 370.90m indicating tops up hole. The colour is light grey with faint blue and yellow hues. The clasts, although small, tend to represent a variety of rock types, all volcanic in origin. They are all various shades of light to medium grey and tan, some

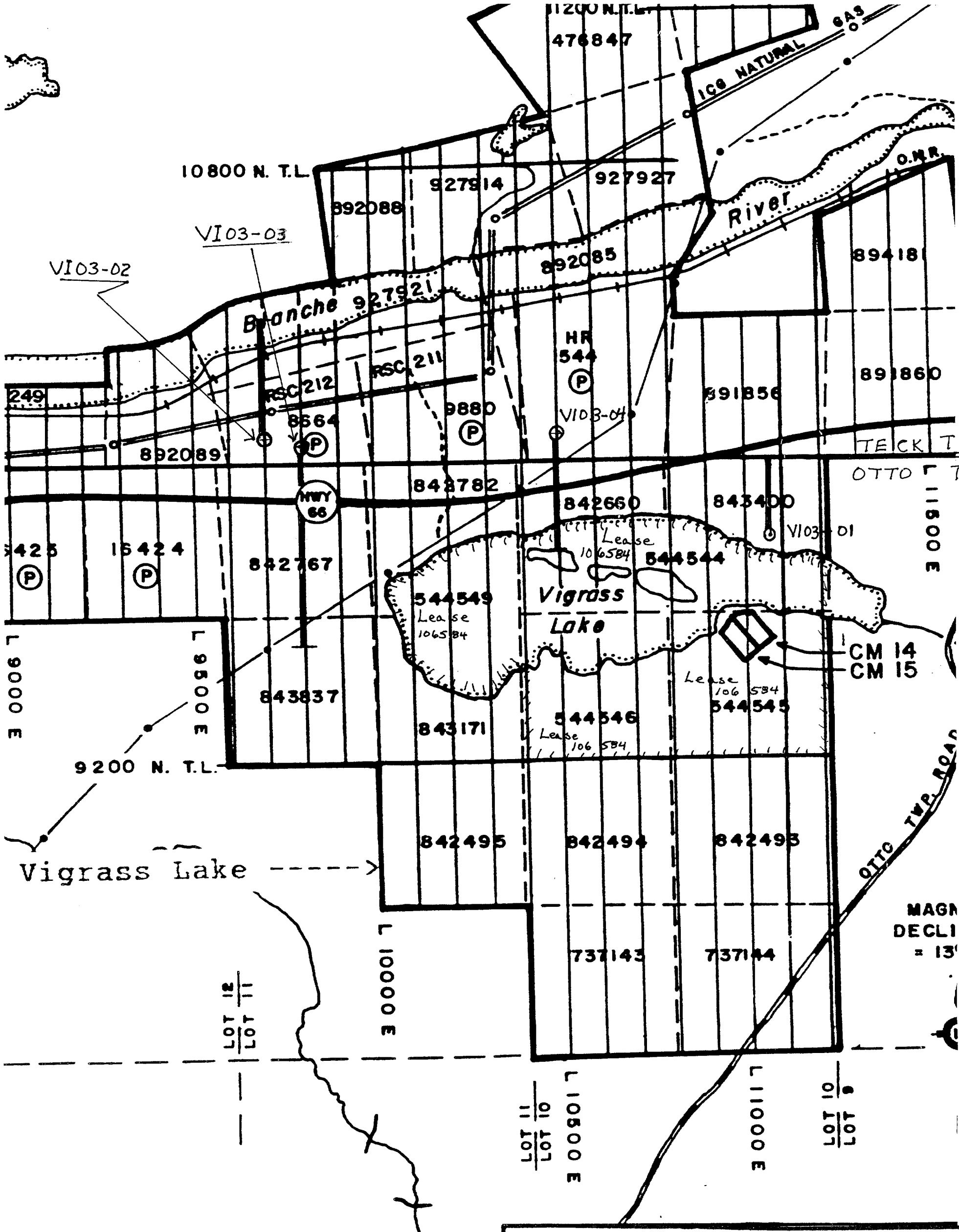
From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

black, with NO sign of red, pink, orange or granitic, syenitic, porphyritic clasts at all. The homogeneity of the wacke is indicated by the MS values which are constrained to a range of 0.19 to 0.22. The matrix and minor carbonate in the veining is ankeritic; sulphides are trace overall and are not associated with, or enriched, in the walls of the 1% quartz carbonate veins and patches that cut the wacke.

377.76 387.00 CONGLOMERATE

The contact between the gritty greywacke and conglomerate is gradational through an increase in clast size. As with the grit, the clasts are exclusively volcanic and sedimentary in provenance, again, with no red or granitic component. Jasper, which is typical of Timiskaming conglomerates, is also absent. Otherwise, the clasts are supported in a matrix of grit and fine grained greywacke. They are all fine grained/ textured and a variety of colours, most of which are shades of light, medium and dark grey, and light yellow/ buff/ olive. Pebbles are generally subrounded, up to 4cm in size, and aligned parallel with a foliation or bedding/ imbrication fabric @ about 50 TCA. Ankerite continues as the dominant carbonate mineral to the bottom of the hole. The core is cut by about 1-2% dull grey quartz carbonate veins and patches to 2cm; sulphides are trace. MS values average 0.18 except for a short section near the end which rises to 0.26.

387.00 END OF HOLE.



QUEENSTON MINING INC.

KIRKLAND LAKE PROJECT

ONTARIO

VIGRASS LAKE PROPERTY

DRILL HOLE PLAN

Project No.: 75-JV-28	Scale: 1:10,000
N.T.S.: 42A/1	Data by: B.H.M.
Drawing No.: 2	Date: Aug. 2004

WB

QUEENSTON MINING INC

DIAMOND DRILL HOLE RECORD

Drill Hole: VI 03 02

Property: VIGRASS
Northing: 10076.00
Easting: 9700.00
Elevation: 330.00

Collar Azimuth (Grid) .00
Collar Dip: -50.00
(0 Degrees Grid equals 0 degrees True)
Hole Length: 454.50

Date Printed: 19 Apr, 2004

*** Dip Tests ***			*** Dip Tests ***		
Depth	Azi.	Dip	Depth	Azi.	Dip
1.5		-49.5	270.0		-43.0
90.0		-46.0	360.0		43.0
180.0		-45.0			

Date Started: Jan 27, 2003
Date Completed: Feb 12, 2003

Drilled by: H & S
Core Size: *NQ*
Material left in hole NX CASING- left in hole
Core Location: Upper Canada Site 1
Logged by: PR Ploeger

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

SUMMARY LOG

.00	1.50	OVERBURDEN
1.50	36.72	GREYWACKE TIMISKAMING GROUP
36.72	50.92	FAULT ZONE
50.92	76.35	CONGLOMERATE
76.35	87.60	GREYWACKE CONGLOMERATE
87.60	100.90	MUDSTONE
100.90	106.77	CONGLOMERATE
106.77	108.10	MUDSTONE
108.10	112.57	SYENITE
112.57	113.55	GREYWACKE CONGLOMERATE
113.55	124.88	TRACHYTE
124.88	151.45	TUFF TRACHYTE
151.45	159.04	CONGLOMERATE
159.04	193.22	PORPHYRITIC SYENITE
193.22	199.10	CONGLOMERATE
199.10	204.94	*MUDSTONE*
204.94	224.22	CONGLOMERATE

42A01SE2024 2.28402 TECK

From (m.)	To (m.)	Geology
224.22	353.59	PORPHYRITIC SYENITE
353.59	361.87	CONGLOMERATE
361.87	374.02	SYENITE
374.02	395.09	CONGLOMERATE
395.09	398.45	FAULT ZONE
398.45	417.50	GREYWACKE CONGLOMERATE
417.50	457.50	AGGLOMERATE CONGLOMERATE

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

From (m.)	To (m.)	Geology
.00	1.50	OVERBURDEN Sand and rubble.
1.50	36.72	GREYWACKE TIMISKAMING GROUP Up to 3.5m, the slips and fractures of the greywacke are weathered and oxidized. Beyond, there is only minor oxidation on the slip planes and in the walls of a few scattered fractures. Overall, the wacke is fine grained, massive, granular textured and unusually devoid of pebbles or gritty lenses except at the start. The colour varies with the degree of alteration ranging from medium to light grey in the fresher to weakly altered sections, through light green grey where moderately altered, to light creamy olive to lime green where more strongly altered. In addition to the pervasive alteration, the host is also cut by 5% dull white carbonate quartz veinlets, fractures, gashes and irregular patches. Locally, as from 25.60 - 25.90m, fine thready lime yellow green sericite fractures define a weak zone of shearing @ about 65 TCA. Very fine rare grains of jasper help to define the protolith. The hole is collared in a gritty lense, the only one in the interval, which continues to 2.50m. The texture is coarse, granular with scattered chips of jasper. Throughout the interval there are indications of weak banding/ bedding @ 40- 55 TCA (at 21.25 & 23.82m) as well as finer grained and laminated zones (30.77 to 31.83m) @ 50 TCA. Staining with ferricyanide solution indicates that the pervasive carbonatization, as well as the veining, is ankeritic. The magnetic susceptibility throughout the interval falls within a relatively narrow range between 0.05 and 0.20. There appears to be a crude association between coarser sections which exhibit a lower range of MS values from 0.04- 0.18 and the very fine grained beds which are in a slightly higher range of 0.15-0.22. Overall, the sulphide content is nil to trace with slightly anomalous halos around the structures and alteration features described below. 3.00 3.45 Broken Blocky Core - The core is broken up into 3-7cm pieces between bounding Strong Oxidized Crush Shear Faults @ 55/ 45 TCA. The structures are followed by 25cm of mottled light green grey silicification with trace to anomalous sulphides. 8.50 8.80 Fault Zone - The zone is moderately sericitized (yellow green) and silicified around a central Sericite Shear Alteration Fault @ 35 TCA. It is followed by a second structure, a Crush Quartz Carbonate Fault @ 25 TCA, at 9.68 to 9.77m. Although the alteration is mild between the structures, the sericite fracturing extends several cm into the walls and contains trace to anomalous pyrite. 15.88 17.22 Greywacke Quartz-Carbonate Vein Zone - The quartz carbonate veining, which occurs as irregular patches, streaks and veinlets

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26161	2.90	3.70	.80	tr	.000	.000	nil
26162	8.50	9.51	1.01	tr	tr	.000	10
26163	9.51	9.84	.33	tr	.000	.000	nil
26164	15.87	16.67	.80	tr	.003	.000	88
26165	16.67	17.22	.55	tr	tr	.000	2
26166	33.00	33.50	.50	tr	.000	.000	nil
26167	35.60	36.00	.40	tr	.000	.000	nil
26168	36.00	36.73	.73	tr	.000	.000	nil

From (m.)	To (m.)	Geology
		with random orientations, amounts to about 10% of the core. It is concentrated in conjunction with zones of sericitic fracturing, shearing and alteration, some of which become bright apple green over short intervals (1cm at 16.17m) and along slips. Quartz Carbonate Sericite Structures occur at: 15.62m @ 70 TCA; 15.86m @ 60 TCA; 16.18m @ 75 TCA; 16.48m @ 65 TCA; 17.11m @ 80 TCA. The overall colour of the core is light olive grey green and it contains trace sulphides.
18.60	21.00	Lost core - The night shift drillers reported hitting a 2m void at this interval. They indicated that the rods dropped to the footwall so they stopped drilling to await instructions, believing that they would not be able to continue. The foreman, Brad Pullen, had the drillers on day shift attempt to collar in the far wall. They did this successfully and were able to reenter the hole with no difficulty. The water return came back and the crew continued with the hole. In checking the maps and plans of the area, no evidence of an old shaft or adit were found and the hole was well below the level of the natural gas pipeline. There is no evidence of bad ground or any other feature, apart from very minor grinding on one slip, in the core.
22.94	24.28	Siltstone - This interval is generally finer grained then the overall greywacke of the unit and is pervasively bleached to a light lime green colour. There is no anomalous veining or sulphide content associated with the more intense alteration.
31.79	34.37	Chloritic Fractured- The interval contains about 4% spidery dark grey chlorite fractures that may be conjugate to a central fault. The zone starts on a 2.5cm Carbonate Chlorite Quartz Breccia Fault @ 60 TCA and ends with a gradual decrease in the frequency of the fractures. The central main structure comprises a Crush Chlorite Fault @ 50 TCA at 33.30m.
35.77	35.78	Quartz Vein Zone - A 1.5cm quartz carbonate vein @ 70 TCA, it has a chloritic crushed leading contact and contains about 2% pyrite.
36.72	50.92	FAULT ZONE The host lithology for the fault zone appears to be greywacke, except perhaps for the lower 4 metres which, because of the intensity of deformation, is indeterminate. Several stages and intensity of deformation constitute the fault structure. In the leading section from 36.72 to 43.30m, the FAZ is characterized by thready to intense yellow green sericite shearing and fracturing @ 40 to 50 TCA with dull grey quartz carbonate veining and pervasive and fractured quartz carbonate coinciding with the stronger core of the alteration. The trailing metre of this zone is relatively fresh compared to the overall degree of alteration. The sulphide content is nil to trace. MS values range between 0.07 and 0.35 with the

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26169	36.73	37.60	.87	tr	.000	.000	nil
26170	37.60	38.60	1.00	tr	.000	.000	nil
26171	38.60	39.56	.96	tr	.000	.000	nil
26172	39.56	40.32	.76	tr	.000	.000	nil
26173	40.32	41.34	1.02	tr	.000	.000	nil
26174	41.34	42.19	.85	tr	.000	.000	nil
26175	42.19	43.33	1.14	tr	.000	.000	nil
26176	43.33	43.94	.61	tr	.001	.000	29
26177	43.94	45.00	1.06	tr	.000	.000	nil
26178	45.00	46.08	1.08	tr	.000	.000	nil
26179	46.08	46.90	.82	tr	tr	.000	5

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		higher values corresponding to the fresher wacke. An oxidized slip @ 40 TCA at 39.22m may indicate a watercourse along an open fracture zone.	26180	46.90	48.00	1.10	tr	.000	.000	nil
			26181	48.00	49.28	1.28	tr	.000	.000	nil
			26182	49.28	50.10	.82	tr	.000	.000	nil
			26183	50.10	50.95	.85	1	.000	.000	nil
		43.30 46.90 Carbonated Zone - At 43.30m, there is an abrupt change to a corridor of strong alteration and deformation which is defined by mottled olive yellow bleaching, ankeritization, sericitization, silicification and intense crushing. The leading half metre is particularly well crushed into a cataclastic style texture @ about 35 TCA. The MS values average 0.18 and the sulphide content is anomalous but <0.5%.								
		46.90 50.92 Fault Zone - This section of the fault appears less intensely altered, ie, less bleached but more tectonically deformed. Original carbonate veining and the host rock have been crushed and moved/ rotated thereby defining a strong cataclastic feature that does not maintain an oriented fabric except the trailing contact which trends @35 TCA. The sulphide content remains trace overall with a local concentration of 0.5% over 5cm near the lower contact.								
50.92	76.35	CONGLOMERATE								
			26184	62.46	63.50	1.04	tr	tr	.000	5
			26185	63.50	65.05	1.55	tr	tr	.000	3
			26186	65.05	66.48	1.43	tr	.000	.000	nil
			26187	76.08	76.48	.40	tr	.001	.000	19
		There is a sharp contact with the end of the FAZ and the underlying conglomerate horizon. From the contact to 54.80m, the host comprises a fine grained to gritty wacke with scattered pebbles and pebbly lenses. The alteration and moderate bleaching associated with the FAZ gradually decreases to the point at which the host becomes realtively fresh, dark grey to green grey. Beyond 54.80m, the typical Timiskaming conglomerate texture predominates. The host is polymictic, generally exhibiting an intact/ clast supported framework with a wacke matrix and lenses. The clasts range from: dark grey to green black mafic and ultramafic volcanic; light to medium grey to yellow/ green grey intermediate volcanic and fine grained sedimentary; blood red jasper; and, various shades and textures of pink, orange and red felsic, granitic, syenitic and trachytic in composition. They are generally rounded to ovoid and locally ribbony with rounded corners and range up to 15cm in maximum dimension.								
		The core contains about 2% off white ankerite and quartz ankerite veinlets, threads and streaks at various orientations, often occuring as ladder type fracture fillings in pebbles. Sulphides (pyrite and rare specks of chalcopyrite) are nil to trace and range up to anomalous in the moderately altered sections. To 62.46m, the conglomerate is relatively fresh, but becomes strongly altered (described separately below) through a FAZ to 66.45m, and then mildly altered to 75.20m at which point it (the matrix mainly) is moderately bleached to a light olive colour. The MS values fall within a fairly consistent range of 0.20 0.45 through the various stages of alteration and deformation. Ankerite continues to form the dominant carbonate mineral in the matrix and the veining.								
		62.46 66.45 Fault Zone - The FAZ starts abruptly on a Sericite Chlorite								

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		Shear Fault @ 50 TCA. It is characterized by moderate to strong light yellow green bleaching/ sericitization along microfractures and fine shearing and strong crushing/ fracturing; both the alteration and deformation decrease down hole. In addition, the zone is moderately pervasively carbonatized/ ankeritized. The crushing and weak foliation fabrics trend @ 35- 50 TCA. Mineralization consists of trace scattered fine pyrite. The strongest altered and deformed portion of the FAZ ends at about 65.00m; the remainder is intermittently altered with a Crush Chlorite Sericite Fault structure @ 45 TCA ending the zone.								
	72.52 73.03	Syenite Trachyte - This short section, although identified as syenite/ trachyte, is not designated as a separate code 4 because it is believed that it is a large cobble. The contacts are sharp but fractured and irregular. The unit is fine to medium grained, massive, light to medium orange pink, finely porphyritic with 1-2mm size dark pink phenocrysts and dull yellow acicular grains in a fine grained groundmass. MS values are 0.50 and 0.97, sulphides trace, and several scattered dull white carbonate (ankerite) veinlets to 0.7cm form 5% of the unit.								
	75.20 79.84	BLEACHED- The interval comprises moderately bleached conglomerate in which the matrix is altered to a creamy pea green colour. There is no significant increase in sulphides or veining over the interval. The alteration seems to be centred on a Crush Quartz Fault @ 15 TCA at 76.35m and ends on a 4.5cm wide fine Breccia Fault @ 80 TCA.								
76.35	87.60	GREYWACKE CONGLOMERATE								
			26188	87.00	87.45	.45	tr	.000	.000	nil
		The fault in the middle of the preceding bleached section (76.35m) forms the contact of the changeover from intact framework conglomerate to a pebbly greywacke. The interval is characterized by a fine grained greywacke matrix which contains about 15-20% scattered pebbles. In contrast with the previous clasts, the ones in this section are generally elongate, somewhat imbricated in places, and generally more angular although they exhibit the same variety of lithologies more or less. The central core of the pebbly wacke from 79.84 to 85.70m is fresh (medium- dark blue/ green grey) whereas the leading and trailing sections are moderately bleached. The core remains strongly ankeritized and the sulphide content, trace.								
	87.15 87.22	Fault Zone - This FAZ is close to the lower contact of the pebbly greywacke and just within the start of the bleaching. It consists of finely brecciated white carbonate and bleached host rock in a darker green grey chloritic matrix which cuts the core @ 50 TCA.								
	85.72 93.25	BLEACHED Similar to the zone at 75.20m, the bleaching straddles the contact between the pebbly wacke and mudstone. Several of								

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		the pebbles are altered to green carbonate. The sulphide content remains trace.								
87.60	100.90	MUDSTONE								
		A sharp undulating contact marks the change from the pebbly wacke to the mudstone assemblage. In fact, the mudstone comprises a mix of finer grained facies of the Timiskaming sediments which include: 87.60- 91.33m, fine to very fine grained massive greywacke with the odd fine ovoid clast and a 12cm shardy interbed (at 88.65m); 91.33- 92.96m, very strange, very fine grained to aphanitic massive mudstone with flame like contacts between beds and patches and trains of 'rip- up' clasts; 92.96- 93.60m, a well fractured zone (Crush Ankerite Fault) @ 40 TCA that marks the end of the bleached zone; 93.60- 95.55m, an aphanitic, dark brown grey mudstone resembling chert with faint primary? fracturing and rip- up textures which ends in a serated, fractured contact; 95.55- 96.47m, intensely fractured/ crushed, slightly bleached mudstone which resembles quench/ hyaloclastite textures and ends on a tight Chlorite Fault @ 75 TCA; 95.55- 99.63m, pebbly greywacke similar to the preceding interval at 76.35m with 5% white carbonate veinlets; 99.63- 100.90m, a return to the aphanitic mudstone with a mix of the various phases including weakly fractured relatively fresh and massive sections with a well fractured olive yellow altered core and anomalous pyrite (<0.5%). MS values range between 0.14 to 0.26.	26189	99.85	100.82	.97	tr	.000	.000	nil
100.90	106.77	CONGLOMERATE								
		The host reverts to conglomerate through a sharp contact at 35 TCA. In contrast with the finer grained matrix of the previous units, the matrix of this interval is coarse and gritty with clast supported pebbles. A central core of mudstone extends from 103.06 to 103.66m. In the trailing metre, the matrix becomes fine grained and the pebbles become fewer and more widely scattered. About 7% dull white ankerite quartz veins and veinlets to 2cm cut the unit. MS values are slightly elevated in the 0.21- 0.31 range and the sulphide content is trace.								
106.77	108.10	MUDSTONE								
		Being in contact with the trailing syenite intrusive, the mudstone has been well deformed and altered. The colour ranges from medium blue grey to mottled light orange and pink grey, particularly near the lower contact. In addition, it is well fractured (tectonically) and silicified (30%). Ankerite remains the dominant carbonate and sulphides still run trace. The contacts fall on chlorite and carbonate oxidized slips @ 50 and 75 TCA, respectively.	26190	106.77	108.10	1.33	tr	tr	.000	2
108.10	112.57	SYENITE								
		Although the protolith has been tentatively identified as syenite, the	26191	108.10	109.07	.97	tr	.000	.000	nil
			26192	109.07	110.05	.98	tr	tr	.000	3

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		degree of alteration and deformation precludes positive ID. Given the colour and texture of the unit, it could be a trachytic flow or tuff. As has been mentioned, the leading contact falls on an oxidized carbonate slip, the lower contact appears sharp @ about 45 TCA but is somewhat lost in moderate fracturing; there is no evidence of chilled contacts. Overall, the syenite is medium to light pink, fine to medium grained, massive, well crushed/ fractured and altered. Faintly visible through the crushing is a hint of weakly defined feldspar phenocrysts, and at 113.14m, a possible 8cm mafic inclusion reminiscent of those in the syenite porphyries associated with the Kirkland Lake deposits. The veining and carbonate alteration continues to be dominated by ankerite. Splashes of chalcopyrite are included in the carbonate- chlorite fractures, particularly at about 110.00m, although the average sulphide content is trace. MS values are relatively uniform at 0.23. The leading contact, although irregular and partly ground, appears to trend at about 75 TCA whereas the lower contact, is sharp at 45 TCA.	26193	110.05	110.82	.77	tr	tr	.000	5
			26194	110.82	111.30	.48	tr	.000	.000	nil
			26195	111.30	112.39	1.09	tr	.000	.000	nil
			26196	112.39	113.00	.61	tr	.000	.000	nil
		110.83 110.98 Fault Zone - The FAZ is characterized by a leading crushed carbonate chlorite vein, followed by 5cm of well carbonatized syenite, then a 1cm crush gouge zone and finally, 3cm of light creamy tan carbonate. The overall structure trends at 65- 75 TCA.								
112.57	113.55	GREYWACKE CONGLOMERATE The interval represents a very narrow section of pebbly greywacke that is well altered and fractured. The upper 0.5m is light tan altered/ mottled with slightly fresher medium grey green streaky greywacke and approximately 20% light buff yellow carbonate and light pink quartz. The remaining part of the interval is also moderately well altered but more pebbly with a variety of clast types. The sulphide content is trace.	26197	113.00	113.56	.56	tr	.000	.000	nil
113.55	124.88	TRACHYTE A change to a mafic trachyte flow is marked by a 4cm bleached flow contact @ 45 TCA. Overall, the colour of the trachyte is medium bluish grey where relatively fresh with local tinges of brownish green where moderately altered. It is massive, fine grained and apparently uniformly textured, however, in weakly bleached sections, faint fine tabular, euhedral, mafic grains/ crystals are somewhat outlined/ highlighted by by light yellow green grey alteration in some instances, and by dark green grey chlorite in others. From the shapes of the grains, they appear to represent altered augite phenocrysts similar to those observed in the mafic/ augite syenites in the Kirkland Lake Camp, although there, they are related to intrusives, not extrusives. Breaks in texture, such as the fine breccias at 116.32 and 166.68m and the mildly bleached zones at 118.65 and 120.86m may indicate flow contacts. The trachyte flow sequence is cut by 7% irregular creamy/ yellow white ankerite and ankerite- quartz veins, veinlets and streaks at various angles	26198	116.55	117.18	.63	tr	.000	.000	nil
			26199	124.59	125.70	1.11	tr	.001	.000	24

From (m.)	To (m.)	Geology

TCA. Despite the higher degree of carbonate veining, there is no corresponding increase in sulphide content. The MS values generally fall within a tight range between 0.28 and 0.43 with a spike to 2.39 at 118.00m.

117.16 117.18 Fault Zone - This is a carbonate vein @ 70 TCA with chlorite fractures and bounding slips and a 0.5cm bleached and sheared upper wall.

124.88 151.45 TUFF TRACHYTE

The trachyte tuff occurs immediately below a strong fault along the contact which is described separately below. Although somewhat similar in appearance to the preceding flows, the tuff has several distinguishable differences. The colour is medium brown to orange grey; the texture, massive and fine grained without the phenocrysts; the fracturing is more chloritic/ hematitic (dark grey) with about 1-2% light pink/ orange carbonate veins and veinlets; a change to calcite with only minor ankerite; and MS values that gradually increase from 0.28 to 11.3. There is a fairly uniform fine grain size with few visible coarser fragments. A brecciated section at 128.83 to 129.50m appears to be mainly tectonic but perhaps overlaps a primary fragmental; occasional rare scattered fine fragments were also observed.

124.88 125.66 Fault Zone - Only about 35cm of the interval was recovered indicating a strong structure, most of which was ground out. The remaining core comprises gravel/ ground core with a few larger pieces, to 6cm, of quartz carbonate veining with silicified and altered brecciated tuff. Sulphides are trace and the Break seems to cut the hole @ about 60- 80 TCA.

127.40 128.20 Fault Zone - It was noticed that the core blocks indicate about 20cm of lost core over the interval, probably along flattened ground core ends. The upper 10cm section comprises a light pink quartz vein @ 45 TCA with ragged patches of dull white calcite and ankerite. This is followed by 35cm of relatively fresh tuff as described. The trailing contact zone is partly broken up into angular chips and also exhibits ground flattened core ends. From the chips and a brecciated carbonate zone it appears that the core was ground/ lost at the confluence of a vein breccia zone @ about 60 TCA and a low angle chlorite fractured/ crushed zone. Approximately 11cm down hole from the trailing structure, streaks of chalcopyrite occur in chlorite carbonate fractures @ 35 TCA.

129.80 130.93 Broken Blocky Core - The broken core results from moderate chloritic fracturing/ crushing being intersected by flat fractures along TCA. There is no evidence of a focussed stronger structure.

132.70 132.80 Quartz Carbonate Vein Zone This zone is more unusual than inmpressive. It consists of two parallel 1cm porous/ weathered

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26200	127.00	128.36	1.36	tr	tr	.000	2
26201	133.77	134.20	.43	tr	tr	.000	9
26202	141.73	142.05	.32	tr	.000	.000	nil
26203	148.00	148.90	.90	tr	.000	.000	nil
26204	148.90	149.85	.95	tr	.000	.000	nil
26205	149.85	150.30	.45	tr	.000	.000	nil
26206	150.30	151.23	.93	tr	tr	.000	5

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

quartz carbonate veins @ about 20 TCA.

132.80 148.90 Tuff Trachyte - A continuation of the fine to very fine grained trachytic tuff, the carbonate, apart from calcite on very late fractures, reverts to ankerite (and dolomite?) in conjunction with the bad ground and veining from above. The overall intensity and volume of fracturing and carbonate veining decreases to 1%, the colour is medium to dark grey to brownish/ pinkish grey. MS values hover at a plateau in the high 20's and gradually decrease to a trough in the 1.20 range by 39.5m; they again increase to a peak of 20.6 at about 142.5m and finally drop gradationally to 0.23 by 139.0m. The tuff continues fine grained with local lenses that are very fine grained to aphanitic. Faint bedding @ approximately 50 TCA is visible in areas highlighted by mild alteration as at 142.80 & 146.90m; a coarser gritty lense occurs from 147.60 to 148.04m. The last metre is moderately well altered and the overall sulphide content is nil/ negligible.

133.94 134.02 Quartz-Carbonate Vein Zone - The interval represents more of a Carbonate Alteration Breccia Fault @ 40 TCA with a 2cm leading fractured ankerite alteration vein followed by a breccia zone with angular tuff fragments in a quartz carbonate matrix. A pyrite grain was noted in the zone.

135.41 135.46 Quartz-Carbonate Vein Zone - Another brecciated structure as described above, this Breccia Fault trends @ 80/ 65 TCA.

141.80 141.97 Quartz-Carbonate Vein Zone - Overall, the interval comprises about 60% dull white quartz, ankerite and dolomite? veining and breccia @ 35 and 55 TCA. There were no sulphides observed in the structure.

148.90 151.45 Tuff - This appears to be the trailing phase of the tuff horizon in which the colour becomes mottled medium green grey and the host very fine grained to aphanitic. The tuff is cut by 7-8% carbonate veinlets/ threads, streaks and patchy alteration which cuts the host at various attitudes. In places, there appear to be weakly visible primary rip- up and fragmentation features of some tuff bands. The MS values are relatively stable in the range of 0.22- 0.37; ankerite (dolomite?) is the dominant carbonate mineral but late fractures are weakly calcitic. Sulphides average trace overall but pyrite is weakly scattered in the fractures and finely disseminated through the tuff, reaching about 1% over 8cm at 150.10m.

149.03 149.13 Fault Zone - This comprises more of a weak Carbonate Alteration Fault structure @ 55 TCA with beige alteration and creamy carbonate which is followed 20cm down hole by a narrow section of broken core recovered as chips.

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
151.45	159.04	CONGLOMERATE								
			26207	158.92	159.67	.75	tr	tr	.000	2
		The upper contact of the conglomerate with the tuff is coarsely 'toothed'/ zigzagged but sharp and natural. The unit resembles typical Timiskaming conglomerate with an intact/ clast supported framework, a variety of clast types including bright red jasper, good rounding of the pebbles, a mix of clast sizes from grit to boulders, and, a fine grained to gritty greywacke matrix. Overall, the host is mildly altered to a medium bluish to greenish grey colour and is cut by 2% dull white carbonate (quartz) veinlets and streaks. The carbonate of the altered matrix and the veining is ankerite. MS values are variable ranging between 0.28 and 3.50; sulphides are nil to trace.								
		159.00 159.04 Fault Zone - The lower contact of the conglomerate occurs along a 4cm Carbonate Chlorite Breccia Vein/ Fault @ 75 TCA which is characterized by a fine shard breccia in a chloritic matrix at the start and a dull creamy white fractured carbonate vein below.								
159.04	193.22	PORPHYRITIC SYENITE								
			26208	167.51	167.86	.35	tr	.000	.000	nil
			26209	177.78	178.07	.29	tr	.000	.000	nil
			26210	181.10	181.40	.30	tr	.000	.000	nil
			26211	181.40	182.60	1.20	tr	.000	.000	nil
			26212	184.62	185.23	.61	tr	tr	.000	5
		The syenite porphyry is similar to some of the syenitic phases in the main Kirkland Lake camp. Although the porphyritic texture of the groundmass is not obvious, experience from previous logging of the lithologies of the area was used to identify several features typical of the porphyries. Overall, it is mildly altered with minor moderately altered/ bleached sections adjacent to structures, medium to light pink/ pink grey, massive, medium grained, weakly bimodal and moderately to well microfractured and fractured. Another typical feature of the porphyries of the Kirkland Lake area which are also identifiable in the core are 2-3% dark green mafic inclusions. They range from a few mm to 6cm in size and are generally angular in shape. The groundmass phenos are very faint throughout the unit and appear to be weakly developed or absent in places. Generally, they are dull pink grey, 1-2mm in size, equant with broken and corroded edges depending on the intensity of deformation, and, of variable concentrations. The groundmass is fine grained, and in addition to the finer feldspar phenos contains 2% pink to white, euhedral, larger k-feldspar? crystals from 2-8mm in maximum dimension.								
		As mentioned above, the contact with the conglomerate is faulted. Downhole from the fault, the leading 0.8m of the porphyry is moderately to mildly bleached to a light olive grey colour with a gradational change to the mildly altered main body of the unit. Overall, the core is moderately broken up along chloritic fractures at various orientations within the intrusive yielding an estimated RQD of about 50 to 176.0m; it becomes more competent beyond. The microfracturing is manifested as fine crackle type fracturing; this grades up to fine carbonate veinlets which constitute about 1-2% of the core. Ankerite remains the dominant carbonate mineral and the sulphide content is consistently trace overall. MS values are relatively stable								

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

around 0.18 with occasional minor variations to 0.35.

167.62 167.79 Fault Zone - Structures at the start and end of the interval mark the main features of the FAZ. The upper feature comprises a 1.5cm carbonate chlorite vein/ fault @ 60 TCA; the lower structure is a 0.5cm carbonate chlorite wafer @ 75 TCA. The two are separated by light brownish orange altered host rock.

177.94 177.96 Fault Zone - Although this structure is not as strong as others, it appears to have a thin coating of graphite- moly (black smudge) which is often associated with mineralization in the mines of Kirkland Lake. The thin slip, @ approximately 50 TCA, occurs within a moderately light orange altered zone and is followed 4cm down hole by a ragged chlorite fracture with a sliver of grey quartz and a few pyrite grains.

181.17 181.27 Fault Zone This is a relatively strong fault that is characterized by a mix of brecciated dull white carbonate (ankerite), bands of light orange carbonate?/ feldspar?/ barite?, and chloritic fractures and matrix @ 65 TCA. About 10 cm of the porphyry up hole from the fault is mildly bleached over about 10cm whereas below the structure, the bleaching extends an additional 1.3m. Apart from some fine dusty pyrite which was observed in a dark grey sliver of silicification within the fault structure, there are no significant sulphides within the bleached walls.

185.07 185.14 Fault Zone - This Carbonate Crush Chlorite Fault @ 75/ 85 TCA is a weaker version of the previous FAZ. The alteration, which is moderate and does not reach the point of being bleached, is dirty light orange and extends over a total of about 30cm. It is centred on a 7cm zone of chloritic fracturing / crushing with minor dull pink/ white broken carbonate and quartz slivers.

186.69 186.94 Fault Zone - This is more of a zone of crushing and moderate alteration then a true fault. The bulk of the interval is moderately fractured/ crushed with chloritic and sericitic fractures and accompanying grungy olive pink mottled alteration. A strong crush chlorite slip @ 60 TCA ends the zone. There is some additional crushing at 187.30- 187.40m with mild to moderate alteration between the structures.

190.25 193.22 Broken Blocky Core - The trailing section of the porphyry is well broken along a series of irregularly oriented fractures, many at low angles TCA. The RQD for this interval is estimated at 15.

192.75 193.22 Fault Zone The broken core as well as the porphyry intrusive ends in ground core in which about 30cm was lost. There is no well defined structure preserved to obtain an orientation but

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		it appears to constitute a Bleached Gouge Carbonate Break, possibly @ about 70 TCA. Although the actual contact with the conglomerate is within the zone of lost/ ground core, the start of the sediments was taken at the lower end of the structure.								
193.22	199.10	CONGLOMERATE								
		Through the structure described above, there is a return to typical Timiskaming conglomerate as described at 49.92m. Overall, it is polymictic, fresh to mildly altered with a greywacke matrix and massive lenses and local gritty zones. The section is cut by 3% white ankerite veinlets and fractures, generally at high angles TCA. The carbonate is ankeritic, sulphides are trace and MS values average about 0.50.	26213	194.57	195.00	.43	tr	tr	.000	3
			26214	195.00	195.88	.88	tr	.000	.000	nil
		194.56 194.82 Carbonated Zone - Actually, the overall carbonate content is about 20% confined mainly to fractures and veins at the start and end of the interval in structures that trend @ about 80 TCA. There were no sulphides observed.								
		195.73 195.82 Fault Zone - This is a Strong Breccia Fault @ 55 TCA with carbonatized fragments in a chloritic matrix and lower bounding shear.								
199.10	204.94	MUDSTONE								
		The mudstone is similar to that described at 87.60m above. The contacts are natural but irregular and somewhat transitional over a short length. Overall, it is very fine grained to aphanitic, resembling chert but easily scratched, and generally massive with local rip- up, fragmental, and soft sediment deformation textures. The textures are accented by colour changes resulting from mild alteration to light and medium olive grey, medium to light grey and brownish grey, and lime green. Ankerite veining amounts to about 1% and sulphides are trace. The susceptibility falls within a range of 0.14 to 0.29.	26215	199.53	200.00	.47	tr	tr	.000	9
		199.64 199.90 Fault Zone - The interval is more of a crushed zone with chloritic fractures and minor carbonate streaks, all of which trend @ about 35 TCA.								
		203.80 203.82 Fault Zone - Apart from about 0.5cm of gouge along a slip @ 35 TCA, there is no other evidence of the existence of a structure here.								
204.94	224.22	CONGLOMERATE								
		Through a natural contact, the hole again intersects a thick section of conglomerate similar to that described previously. It is polymictic, clast								

supported with greywacke matrix and lenses, and fresh to weakly altered to an overall medium bluish grey colour. About 2% dull white ankerite veinlets and veins to 4cm cut the host at various angles TCA. There do not appear to be any sulphides associated with the veining or in the matrix. The MS values are highly variable between 0.20 and 8.00, reflecting the variable nature of the clasts.

224.22 353.59 PORPHYRITIC SYENITE

The leading contact of the syenite porphyry is coarsely serated/ undulating @ about 25 TCA, however, over the upper 5m, there are several conglomerate inclusions up to 30cm that indicates the overall contact meanders along TCA. Overall, the porphyry is similar to those higher up in the hole in that it is bimodal, medium brownish red/ pink coloured, massive, medium grained and mildly to moderately microfractured. Typically, it contains scattered green grey mafic inclusions that make up less than 0.5% of the core. Local variations in texture include finer grained sections to 1m (as at 237.0m) and a narrow coarse grained zone over 10cm at 235.60m.

White carbonate veinlets and spidery fractures make up 1-2% of the core; ankerite is the dominant carbonate component of the veinlets and matrix. As with most of the hole, the sulphide content is nil to trace; MS values traverse a narrow range between 0.12 and 0.28 with the occasional spike to 0.46.

228.37 228.45 Carbonated Zone - This is a creamy white ankerite/ ankerite breccia vein @ 25/ 45 TCA which is barren of sulphides.

233.20 233.75 Fault Zone - Most of the interval comprises ground core recovered as fine gravel and chips; it appears that not too much core was lost. The lower 10cm form a brecciated carbonate vein zone, the core angle of which probably parallels the main gouge structure @ 25-35 TCA. The FAZ is unmineralized.

244.64 244.70 Fault Zone - The FAZ is centred on a 1m light orange altered section of porphyry. It contains minor gouge along bounding chlorite slips @ 25 TCA around a porous orange and grey core of calcite, quartz, ankerite and barite? (carrot orange coloured). The walls are crackle fractured over 10cm with white ankerite fillings. No sulphides were observed.

248.04 248.06 Fault Zone - This is a tight Chlorite Crush Fault @ 70 TCA with moderate chloritic fracturing up and down hole over a total width of 15cm and minor quartz and a trace of fine sulphides.

250.32 250.41 Fault Zone The structure here is a Chlorite Breccia Fault @ 25 TCA composed of fine angular porphyry and carbonate fragments in a chloritic matrix centred in a 40cm section of light orange alteration. Also noted within the fault are

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26216	233.20	233.88	.68	tr	tr	.000	12
26217	244.37	244.83	.46	tr	.003	.000	98
26218	247.80	248.15	.35	tr	.001	.000	26
26219	250.20	250.53	.33	tr	.000	.000	nil
26220	258.23	258.64	.41	tr	.000	.000	nil
26221	258.64	259.47	.83	tr	.000	.000	nil
26222	261.95	262.22	.27	tr	.000	.000	nil
26223	262.83	263.35	.52	tr	.000	.000	nil
26224	266.00	266.39	.39	tr	.000	.000	nil
26225	268.16	268.74	.58	tr	tr	.000	3
26226	270.87	271.13	.26	tr	.000	.000	nil
26227	272.29	272.62	.33	tr	.000	.000	nil
26228	272.62	273.16	.54	tr	.000	.000	nil
26229	273.16	273.80	.64	tr	.000	.000	nil
26230	284.45	284.92	.47	tr	.000	.000	nil
26231	295.95	296.64	.69	tr	.000	.000	nil
26232	301.44	301.75	.31	tr	tr	.000	10
33847	301.75	302.94	1.19	tr	.048	.000	1664
26233	302.94	303.53	.59	tr	.044	.000	1510
26234	303.53	304.35	.82	tr	.000	.000	nil
26235	304.35	305.00	.65	tr	.001	.000	48
26236	305.00	305.92	.92	tr	.003	.000	110
26237	305.92	306.33	.41	1	.001	.000	28
26238	306.33	307.07	.74	tr	.001	.000	29
26239	316.00	316.60	.60	tr	.002	.000	65
26240	317.40	317.81	.41	tr	.001	.000	17
26241	324.67	325.70	1.03	tr	.001	.000	50
26242	325.70	326.28	.58	tr	.011	.000	363
26243	326.28	327.23	.95	tr	.006	.000	201
26244	327.23	328.12	.89	tr	.001	.000	36
26245	328.12	329.08	.96	tr	tr	.000	5
26246	335.23	336.03	.80	tr	.001	.000	43
26247	336.03	336.72	.69	tr	.003	.000	113
26248	339.16	339.67	.51	tr	.006	.000	197
26249	339.67	340.40	.73	tr	.003	.000	120
26250	349.60	350.14	.54	tr	.001	.000	36

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

scattered fine specks (trace overall) of pyrite. Down hole at 251.0m, is a 40cm, moderately medium brown olive bleached/ sericitized section that is unmineralized.

252.65 256.45 Broken Blocky Core Within the interval, the core is broken up into smaller pieces along chlorite slips and fractures with an overall estimated RQD of 25. The upper two metres are particularly well broken where higher angle fractures are intersected by slips along TCA. From 255.00 to 255.53m, the porphyry is mildly bleached around a central weak Crush Fault @ 50 TCA.

258.30 275.50 Syenite - Through this section, the syenite host loses much of the obvious bimodal texture that is prominent above and below. In fact, even the smaller feldspar phenos become rare thereby transforming the host into a fine grained phase of massive syenite. Enough larger k-spars remain, although much fewer than 0.5%, to be assured that there is no change in primary lithology, just a change in phase. In conjunction with the loss of feldspar phenos, there is an increase in the size and quantity of mafic inclusions to about 2%. The leading contact appears to coincide with a fault described below, however, the lower contact is gradational. MS values continue to fall within a very narrow range between 0.12 and 0.18 and ankerite remains the prominent carbonate mineral in the matrix and veining/ structures. Down hole, there is a gradual increase in the fracturing and accompanying fine white carbonate (ankerite) threads, veinlets and veins, which, by 290m, amount to about 2-4% of the rock.

258.30 258.47 Fault Zone - The FAZ comprises a series of chlorite slips and fractures accompanied by dull white carbonate and grey quartz streaks and slivers all of which are centred on a 7cm grey green bleached core. The internal structures of the FAZ trend @ 65/ 55 TCA and are not mineralized.

258.86 259.02 Fault Zone - The entire interval is well fractured and brecciated to the point where it could be described as a Crush Breccia Chlorite Fault @ 55 TCA. The FAZ includes angular fragments of the host porphyry and crushed carbonate and quartz vein material that appears unmineralized. The fault is followed downhole at 259.36m by a 10cm wide lime green sericitized/ bleached zone.

262.04 262.06 Fault Zone - This is more of a quartz carbonate chlorite vein (@ 70 TCA) than a fault structure. There is no associated wall rock alteration or mineralization.

262.90 263.07 Fault Zone - This is a well crushed Carbonate Bleached Fault @ 45 TCA in which the host and earlier carbonate veining is well broken up and streaked with dirty lime green sericite and

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

chloritic fractures and matrix material. As with most structures in the hole so far, there is little evidence of mineralization.

266.20 266.23 Quartz Vein Zone - The interval comprises a mottled light pink/ dull white quartz vein @ 65 TCA with a thin wafer of orange carbonate and chlorite forming the core of the zone. The surrounding host is bleached, but unmineralized, for 10cm up and down hole.

268.16 268.74 Altered Syenite Although only weakly bleached and undeformed, the interval is noteworthy in that the alteration is related to two quartz carbonate veins of 1 and 2.5cm that lie about 10 cm within each contact. In contrast with most veins that contained no visible mineralization, tiny grains of pyrite (<<0.5%) were noted in the quartz veins which trend @ 60-65 TCA.

271.00 271.03 Quartz Vein Zone - Another grey quartz vein, it is streaked with orange carbonate?/ barite? and is not nested within an alteration halo. The vein trends @ 70 TCA and is not mineralized.

272.33 272.51 Fault Zone - Again, these are two bounding, 1cm wide quartz carbonate veins @ 65 TCA with no significant alteration between. The veins comprise white to grey streaky quartz and carbonate with slivers of orange carbonate enclosed in chlorite slips on the walls. A few fine pyrite grains were noted.

273.30 273.45 Fault Zone - This is another typical crushed zone centred on moderate olive green bleaching which covers about 0.5m. The structure could be considered a 0.5cm wide Chlorite Carbonate Crush Fault @ 75 TCA. The fractures contain a few scattered chalcopytite and pyrite grains and streaks which are anomalous but still below the 0.5% threshold.

284.67 284.92 Fault Zone - Actually, only the leading 2cm constitutes a Quartz Chlorite Crush Fault @ 65 TCA. The remainder of the zone is crushed to the point where the immediate downhole section from the fault is cataclastic in appearance with chlorite forming the matrix between the fragments. The FAZ is preceded 15cm uphole by a bright orange crystalline carbonate (calcite) veinlet.

296.39 296.56 Fault Zone - Similar to a number of previous faults, this FAZ is nested in a zone of weak to moderate pinkish green bleaching. The main structures which are located at the start and end of the interval, comprise a strong Chlorite Slip @ 45 TCA and a 2cm quartz carbonate vein/ Alteration Fault @ 65 TCA. Mineralization is trace.

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

301.62 301.69 Quartz Vein Zone - The quartz vein begins with a 1cm band of dull grey quartz followed by a 2.5cm band of dark grey quartz/ silicification that appears to overprint a brecciated zone. The rest of the interval comprises a mix of bands of porphyry and quartz carbonate. No sulphides were observed within the vein zone which cut the core at a steep angle of about 85 TCA.

302.94 307.07 Altered Syenite - The alteration within the interval is spotty/ intermittent, with a mildly altered host forming half the zone and alternating bleached and moderately altered (light medium pink orange) syenite, the remainder. Indivdual stronger features are broken out separately below.

303.15 303.33 Quartz-Carbonate Vein Zone - The zone is mainly composed of bone white fractured ankerite veining @ about 35 TCA with lesser included fragments of porphyry and dull grey quartz. As with previous FAZ's and veins, no mineralization of note was observed.

304.42 304.97 Altered Syenite - This section is well bleached to medium greyish olive, apparently centred on a 1cm wavey dull grey quartz and carrot orange carbonate- barite- feldspar? vein at 304.79m which cuts the core @ 35 TCA. A number of spots of chalcopyrite were contained within the vein. A second vein with a core of grey quartz and orange rims that ends the zone @ 75 TCA, also has a few specks of chalco.

305.37 305.58 Fault Zone - In fact, this is another bleached section that surrounds a core of shreddy carbonate quartz veining (with a few specks of pyrite) and chloritic fracturing @ about 55 TCA.

306.08 306.28 Quartz Vein Zone - Overall, quartz and carbonate veining constitute approximately 50% of the interval which is characterized by carbonate and quartz fracture fillings in bleached porphyry surrounding a 4cm dull white and olive grey quartz vein, @ 75 TCA, with 3% pyrite, that forms the core of the zone.

306.47 307.05 Altered Syenite - Another moderately orange olive green bleached zone, it too is centred around a streaky pale olive grey quartz carbonate vein @ 45/ 20 TCA. A few specks of pyrite were seen in the veins.

316.21 316.27 Quartz-Carbonate Vein Zone - The zone is more of a laminated fault structure @ 45 TCA that includes a series of orange carbonate? streaks, chloritic slips and grey silicified bands/ slivers. The lower contact supports a sericite gouge film. The main vein, as well as a ragged white carbonate vein about 15 cm downhole, contain a few splashes of chalcopyrite.

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

317.62 316.72 Fault Zone The structure is a Chlorite Gouge Fault @ 40 TCA with a patchy carbonate quartz core and a few specks of chalcopyrite. This FAZ also marks the start of more intense fracturing which culminates in the following zone of broken core.

319.78 323.00 Broken Blocky Core - The RQD of this interval is estimated at about 5 as most was recovered as small chips and gouge with intermittent pieces to 10cm. The fractures in the residual material indicate that the overall structure probably cuts the core at a low angle, perhaps 15-20 TCA although there is no obvious fault visible. Despite the fact that the section of broken core ends at 332.00m, several chloritic fractures continue down the length of the core axis for about 0.5m.

324.68 332.10 Altered Syenite - Overall, the interval ranges back and forth between moderately altered and moderately bleached sections, both of which seem to overprint a finer phase of the syenite. Scattered quartz carbonate vein systems with minor chalcopyrite spotting occur mainly within the bleached light brownish olive green zones although a few pyrite grains were observed in the pale orange altered syenite at the start of the interval. Approximately 20% white carbonate and medium green grey quartz veinlets and silicification cut the porphyry between 326.28 and 328.04m. About 25cm of core was lost between 326.60 and 326.85m in ground core, possibly on a low angle slip.

329.82 332.00 Fault Zone Broken Blocky Core - The entire interval comprises small broken pieces of core, chips and gouge centred on a Strong Crush Gouge Fault @ 15 TCA at 331.50m. The estimated RQD for this section that ends the alteration zone is 0.

336.04 336.60 Altered Syenite - Moderate bleaching characterizes this interval which starts with a 6cm grey and white speckled quartz carbonate vein @ 70 TCA at 336.20m and contains about 20% veining overall. Trains and splashes of chalcopyrite amounting to about 5% occur in the main vein.

339.74 340.00 Quartz-Carbonate Vein Zone - This is a massive vein comprising a mix of speckled pale grey blue quartz, white ankerite, light orange carbonate?, minor chloritic fractures and the odd speck of sulphide. The vein is preceded by a 0.3cm Carbonate Quartz Chlorite Fault/ Wafer @ 70 TCA with mild bleaching at 339.42m, and, is followed by a 3.5cm pale grey blue grey quartz vein @ 40 TCA. Both of these auxilliary structures contain very minor specks of sulphides.

347.05 347.06 Quartz Vein Zone - Except for the fact that this 1cm undulating dull grey quartz vein @ 40 TCA contains several splashes of chalcopyrite and pyrite, this zone is

From (m.)	To (m.)	Geology

unnoteworthy. There is no associated structure or alteration.

348.40 351.45 Broken Blocky Core - A Strong Crush Gouge Fault that follows along TCA has caused the core to become crumbly over most of the interval. The estimated RQD is very low at about 5. A 60cm central portion at around 350m which was preserved, contains streaky slivers of dull grey quartz with <0.5% fine pyrite parallel with the structure.

353.59 361.87 CONGLOMERATE

The contact with the syenite porphyry is very abrupt on a flattened/ ground piece of core. The lower 2m of the intrusive appear fine grained with only rare larger phenocrysts indicating, perhaps, a natural chilled margin. In contrast, the leading 2m of the conglomerate, to about 355.40m, is tectonically fractured forming a weak cataclastic zone. Overall, the conglomerate is polymictic, clast supported with greywacke matrix and lenses, contains local gritty zones and the typical jasper clasts. Being wedged between two syenitic intrusives, the interval is mildly to moderately altered and fractured with about 10% veinlets, streaks and gashes of white carbonate (ankerite) filling fractures and pressure shadows around and within the clasts. The weak tectonitization at the start seems to trend @ about 40 TCA but the interval does not appear to contain any significant mineralization apart from chalcopyrite splashes in the veining near the start (<<0.5%) and hematitic fractures near the end. MS values average in the mid 30's.

361.86 361.87 Fault Zone - A Mud Gouge Fault @ 40 TCA forms the contact between the conglomerate and the syenite.

361.87 374.02 SYENITE

The leading 35cm of the contact zone are tectonically crushed @ about 35 TCA and characterized by fine porphyry shards/ fragments in a dull grey silicified matrix with minor disseminated sulphides. Overall, the host is massive, fine to medium grained, light dirty greyish pink/ orange with faint dull grey scattered groundmass feldspar grains and rare dark orange pink, larger k-spar phenos defining a very weak bimodal texture. The unit is well fractured and microfractured with 4% dull white ankerite veinlets and streaks as well as an additional 5% fine quartz, sericite and chlorite filled fractures. In general, there is no dominant orientation of the fracturing apart from the structural elements described separately below. The sulphide content is trace overall with a few specks of pyrite and chalcopyrite noted in fractures. MS values are relatively consistent @ about 0.18.

367.70 372.45 Broken Blocky Core (Blanche River Fault?) - The core over this interval is badly broken up on fractures along TCA and sections of intense crushing with gouge. Because most of the

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26251	353.59	354.76	1.17	tr	.007	.000	257
26252	354.76	355.44	.68	tr	.010	.000	326
26253	361.60	362.46	.86	tr	.001	.000	17
26254	366.46	367.30	.84	tr	tr	.000	1
26255	372.32	372.94	.62	tr	.002	.000	81
26256	372.94	373.34	.40	tr	.000	.000	nil
26257	373.34	374.00	.66	tr	.001	.000	17

From (m.)	To (m.)	Geology

core was ground and recovered as small chips and gouge (RQD estimated at 5), determining the orientation of the main structure from the remaining pieces is tenuous. The best guess is a trend of 20-35 TCA. The lower contact of the BBC falls along a 5cm Crush Sericite Carbonate Fault @ 70 TCA with a sprinkling (<0.5%) of very fine dusty pyrite. With the location and strength of the structure, it may equate to a branch of the Blanche River Fault.

273.80 273.15 Fault Zone This FAZ may represent a related structure to the BBC described above. Texturally it is somewhat porous with a central chloritic 2.5cm mylonitic core @ 40 TCA surrounded by dull grey patchy and streaky silicification and pink calcite. The walls up and down hole from the fault are fractured with quartz fillings and trace sulphides.

374.02 395.09 CONGLOMERATE

Through a natural sharp irregular leading contact with the syenite @ 20/ 35, there is a return to conglomerate with similar features to those previously described. It is polymictic with greywacke matrix and lenses and mildly to moderately altered and fractured. The overall colour is a dirty medium grey and the fracturing more intense near the start as described separately below becoming weaker down hole. About 1-2% white ankerite fills fractures, streaks and pressure shadows around pebble rims; other more ragged fractures are filled with chlorite- hematite mixes. Sulphides, whose content is trace overall, occur mainly as local scattered grains of pyrite and chalcopyrite in fractures including several streaks (0.2 x 1.5cm) of chalco along a carbonate slip at 380.40m and a massive vein to 1cm in width at 383.00m. The susceptibility falls in a narrow range between 0.26 and 0.47. Matrix carbonate and veining is generally ankeritic with few scattered light orange spongy/ porous calcite veinlets and streaks.

375.30 377.90 Broken Blocky Core - Another section that was reovered as small pieces and chips, it includes several Gouge Faults @ low angles TCA as well as 20 & 35 TCA. The most prominent structure within the BBC occurs at 377.09m, a Strong Gouge Crush Fault @ 55 TCA, that is followed for 10cm down hole by chloritic slips and streaky and gash carbonate (ankerite)-quartz.

386.00 395.09 Faz- altered - At about 386.0m, the conglomerate becomes well altered/ bleached to an overall light grey green in conjunction with an increase in tectonic deformation. The bleaching results from sericitization of the matrix along very fine hairline fractures and shear planes. In places, ultramafic clasts are altered to green carbonate. The tectonism is indicated by the crushing of the host and early carbonate veining with segmentation, movement and cementation of the fragments by carbonate and sericite into a

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26258	382.84	383.13	.29	1	.017	.000	596
26259	386.28	387.18	.90	tr	.007	.000	231
26260	387.18	388.22	1.04	tr	.001	.000	51
26261	388.22	389.00	.78	tr	.001	.000	27
26262	389.00	389.65	.65	tr	.002	.000	65
26263	389.65	390.16	.51	tr	.007	.000	255
26264	390.16	390.55	.39	tr	.005	.000	177
26265	390.55	391.17	.62	tr	.001	.000	21
26266	391.17	391.71	.54	tr	.002	.000	63
26267	391.71	392.77	1.06	tr	.005	.000	170
26268	392.77	393.93	1.16	tr	.003	.000	113
26269	393.93	395.09	1.16	tr	.010	.000	339

From (m.)	To (m.)	Geology
		protomylonitic texture, the fabric of which trends @ 30 50 TCA. There is an abrupt end to the sericitic alteration/ bleaching at 397.68m at which point the break becomes a massive gouge zone. Overall, the FAZ hosts trace scattered fine sulphides, mainly chalcopytite. The matrix and vein carbonate is predominantly ankeritic (white to light beige) with minor late pale orange pink calcite forms in drusey veins.
389.87	390.37	Trachyte - There is a distinct change in to a massive, fine grained, finely porphyritic texture. The phenocrysts are mm scale euhedral waxy pale green and medium red in colour and are hosted in a very fine grained, light greenish brown/ yellow groundmass. The unit resembles an altered trachytic flow but may also be a large cobble or a fine grained syenitic dike. The contacts are sharp and fall along chlorite-hematite- quartz slips/ veinlets @ 70 and 45 TCA, respectively. The lower vein contact contains considerable streaky and dendritic chalcopyrite, say 20% over 1.5cm.
392.18	392.74	Trachyte - As with the previous narrow trachyte, there are sharp contacts on chlorite and carbonate slips @ 45/ 35 TCA. The interval is marked by a change to a massive texture, fine grain size, a light olive tan colour and faint porhyritic texture, although it appears somewhat granular near the lower contact. MS values average around 0.20; sulphides are trace.
393.00	395.00	Broken Blocky Core - The core is blocky with an estimated RQD of 15 and comprises chips and gouge over the lower 30cm. Throughout the interval, some of the clasts are altered to a light carrot orange colour (carbonate?, barite?). The fractures and slips are strongly sericitic and lime/ olive coloured although localized patches of bright emerald green alteration may indicate the presence of fuchsite (altered ultramafic). There is no anomalous quartz or sulphide mineralization.
395.09	398.45	FAULT ZONE
		This interval represents the heart of the Blanche River Fault (BRFLT) zone. The up hole alteration and minor structures are all related as are the sericitic fracturing and shearing of the following pebbly greywacke. The individual features of the Bl R FLT are described below.
395.09	395.49	Mylonite/ brflt - In contrast with all the other structures in the hole, this appears to represent a true mylonite structure. It consists of ovoid light coloured fragments to 1cm in a weakly foliated fine grained matrix composed of finer fragments and medium slate grey rock powder. The internal fabric of the mylonite zone trends @ 55 TCA.

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26270	395.09	395.49	.40	tr	.003	.000	105
26271	395.49	396.40	.91	tr	.004	.000	142
26272	396.40	397.68	1.28	tr	.007	.000	223
26273	397.68	398.45	.77	tr	.003	.000	114

From (m.)	To (m.)	Geology
		396.40 397.68 Lost core - Only a few small pieces and a train of finely ground gravel and gouge were recovered from the interval.
		397.68 398.45 Gouge/ brflt - What is amazing about this interval is that the drillers were able to preserve the gouge intact, in contrast with the previous section in which it was mostly ground and washed out; they described how they bent the core into an arch. Compositionally, it comprises rock flour and mud which has loosely cemented scattered small rock chips. Bounding and internal contacts indicate an attitude of 45-50 TCA for the gouge zone. Collectively, the mylonite, lost core and gouge intervals represent the Blanche River Fault (BRFLT) structure.
398.45	417.50	GREYWACKE CONGLOMERATE
		As part of the continuing influence of the BLFLT, the leading 4 m are moderately fractured/ cataclastic and sheared in which the fracture and foliation planes are filled with dull lime green sericite. More massive dull grey patches that resemble chert clasts are actually silicified blobs that are strongly calcitic as well; in fact, from this point on, calcite becomes the dominant carbonate mineral. By about 410.00m, the protolith becomes more recognizable as a gritty to pebbly greywacke. Overall, there are thick sections of coarse unsorted grit mixed with pebbly zones and greywacke lenses and matrix material. The unit is mildly fractured and altered to a medium grey/ green- blue colour. The lower degree of alteration is evidenced by <0.5% white calcite fractures and streaks that cut the core. MS values average in the low 20's; sulphides are trace.
		401.00 404.00 Greywacke - NOTE: The drillers mislabled the blocks, there was no block at the location of 401m- they had placed the '401m' *block at 404.00m. To correct the chainage error, all the* following blocks were moved up 3m to correspond with the actual footage.
417.50	457.50	AGGLOMERATE CONGLOMERATE
		At this point there is a blending of Timiskaming trachytic agglomerates and conglomerate/ grit/ greywacke as well as apparent overprinting of hematitic alteration onto the volcaniclastics and sediments. Basically, the unit ranges in and out of medium to dark orange/ brownish grey coloured and medium to dark blue grey shades of agglomerate/ hematitic alteration and conglomerate, respectively. This represents the intermixing of environments within the presumed fluvial setting of the Timiskaming. The contacts between the phases are gradational, with the matrix and fragments becoming proportionally more prominent in the trachytes than the clastic sedimentary material. Locally, however, rounded pebbles and occasional red jaspers are found in the agglomerates. Clasts generally reflect the composition of the host litholgy with the conglomerates being polymictic and the agglomerate being more monomictic considering the contamination with sedimentary

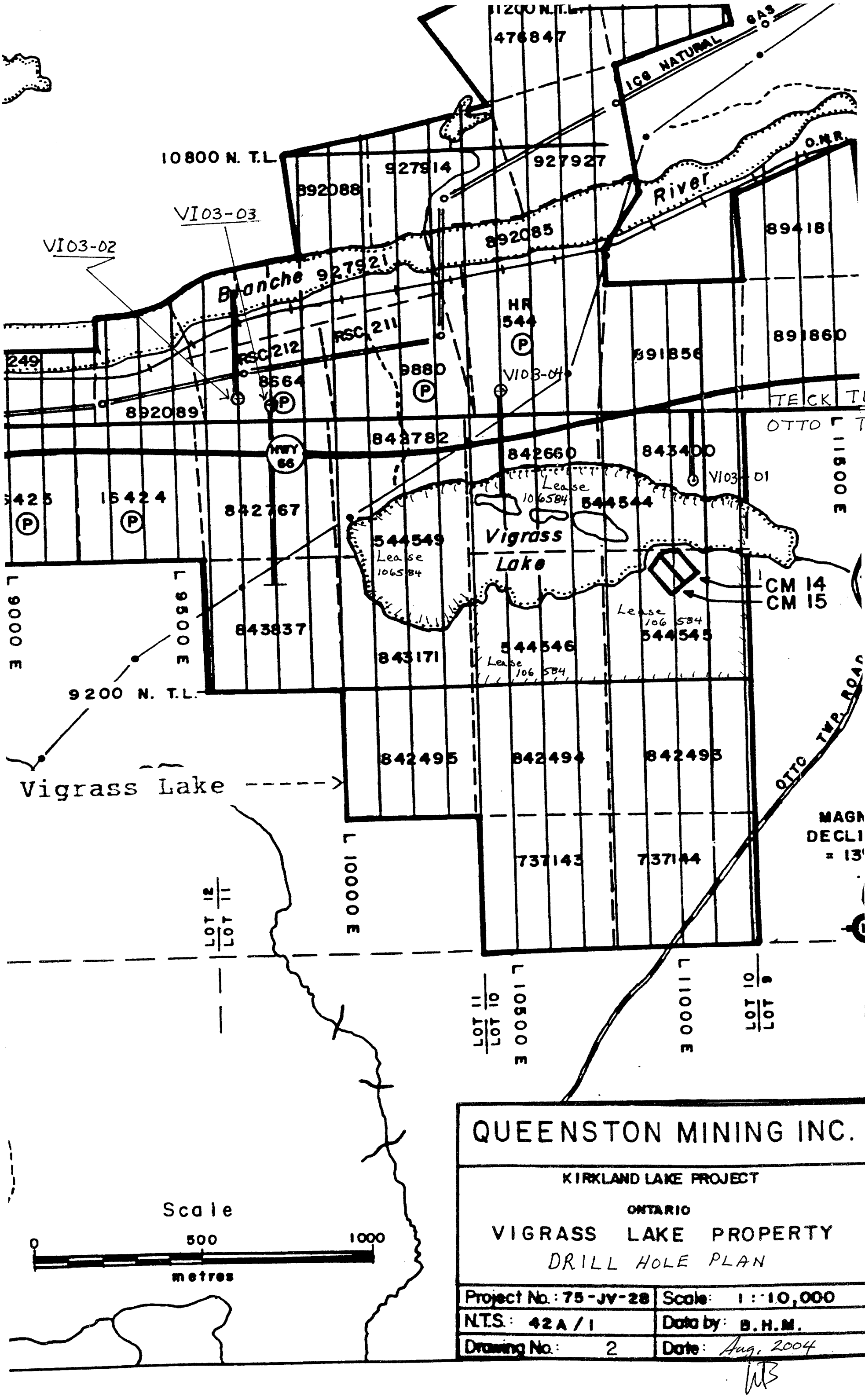
Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
26274	398.45	399.48	1.03	tr	.004	.000	122
26275	399.48	400.65	1.17	tr	.005	.000	187
26276	400.65	402.00	1.35	tr	.001	.000	34
26277	443.00	443.82	.82	tr	.001	.000	21

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

material in places.

Although there appear to be two main lithologies, there is evidence that a portion of the orange brown colouration is due to hematization of the host rocks. In places the colour seems to overprint a granular matrix, in others it appears related to fractures and there is also evidence of the alteration rimming clasts or selectively altering them. The suceptibility also reflects a change in primary lithology with the MS values becoming more variable and attaining an overall higher range of 0.50 to 18.2. There is an increase of white and pink calcite filled fractures, veinlets and gashes to 1-2% and a slight increase in the overall sulphide content as well, although it still remains well below 0.5% overall.

457.50 457.51 EOH - The H & S footage blocks indicate that the hole ends 454.5, but as mentioned above, there was a chainage error at 401 at which 3 m was added. The hole ends in a zone of conglomerate.



QUEENSTON MINING INC.

KIRKLAND LAKE PROJECT

ONTARIO

VIGRASS LAKE PROPERTY

DRILL HOLE PLAN

Project No.: 75-JV-28	Scale: 1:10,000
N.T.S.: 42A/1	Data by: B.H.M.
Drawing No.: 2	Date: Aug. 2004

MB

QUEENSTON MINING INC

DIAMOND DRILL HOLE RECORD

Drill Hole: VI-03-03

Property: VIGRASS
Northing: 10049.00
Easting: 9800.00
Elevation: 328.00

Collar Azimuth (Grid) 180.00
Collar Dip: -55.00
(0 Degrees Grid equals 0 degrees True)
Hole Length: 845.00

Date Printed: 12 May, 2004

*** Dip Tests ***			*** Dip Tests ***		
Depth	Azi.	Dip	Depth	Azi.	Dip
8.0		-54.0	450.0		-52.0
90.0		-53.0	540.0		-47.0
180.0		-52.0	720.0		-45.0
270.0		-53.0	810.0		-48.5
360.0		-52.0	845.0		-49.0

Date Started: November 4, 2003
Date Completed: November 27, 2003

Drilled by: H & S
Core Size: NQ
Material left in hole NX CAS- pulled
Core Location: Upper Canada Site 1
Logged by: FR Ploeger

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

SUMMARY LOG

.00	3.70	OVERBURDEN
3.70	281.00	GREYWACKE CONGLOMERATE
281.00	467.93	GREYWACKE
467.93	494.92	CONGLOMERATE GREYWACKE
494.92	505.35	GREYWACKE
505.35	536.00	CARBONACEOUS SEDIMENTS
536.00	555.28	GREYWACKE CARBONATED ZONE
555.28	568.35	FELSIC DYKE ULTRAMAFIC KOMATIITE ULTRAMAFIC
568.35	605.00	ULTRAMAFIC KOMATIITE
605.00	702.00	BASALTIC KOMATIITE
702.00	713.40	FELSIC DYKE BASALTIC KOMATIITE
713.40	735.55	BASALT BASALTIC KOMATIITE CARBONATED ZONE
735.55	845.00	BASALT

42A01SE2024 2.28402 TECK

From (m.)	To (m.)	Geology
.00	3.70	OVERBURDEN
		The hole is collared in rubble and talus on the crest of a hill north of Hwy 66.
3.70	281.00	GREYWACKE CONGLOMERATE
		The greywacke here is medium/ light grey blue in colour, massive, unsorted, fine to medium grained with grit particles (to 1cm) and grit lenses, and, contains local scattered pebbles and pebbly lenses. Pebbles and grit particles range from rounded to angular and appear to be derived from a fine grained sedimentary and volcanic protolith. They tend to comprise very fine grained, non textured, clasts that are monotone colours ranging from black to various shades of medium to light grey with bluish and yellowish tones. Small chips of grit are ubiquitous and disseminated throughout the wacke while pebbles tend to occur more as lenses as at 9.5m, 43.0m and 45m generally averaging less than 2cm in size but ranging up to 8cm. There is a distinct lack of pink (syenitic/ granitic/ porphyrytic), coarse grained/ textured, trachytic, and red jasper pebbles that are typical of the Timiskaming Group sediments. As mentioned, they are usorted and exhibit no bedding features, however, from the distribution and orientation of the clasts, it appears that bedding attitudes are relatively shallow, say about 20- 30 DTCA.
		The gritty wackes are fairly fresh to weakly altered. Oxidation on slips and fractures near the collar of the hole are oxidized indicating strong carbonatization of the host. This is confirmed by staining with ferricyanide solution which indicates that the wackes are moderately to strongly ankeritized. Some of the veinlets are ankeritic, however, down hole, fractures and veining become mainly calcitic. In addition, dull white quartz carbonate as fracture fillings, veinlets, veins, patches and slips makes up 3% of the core. There is no obvious mineralization associated with the veining or occuring in the matrix; only rare very fine grains of pyrite (py) were noted throughout. Magnetic susceptibility (MS) values fall within a relatively narrow range of 0.15 to 0.23. Sampling reflects slight increases in the amount of quartz carbonate veining, and, the more extensive or prominent zones are detailed below.
		14.90 14.95 Quartz Vein Zone - A dull white to dull grey fractured quartz carbonate vein @ 30 DTCA defines a weak, unmineralized, possible fault.
		28.17 28.40 Quartz Vein Zone - This interval contains approximately 70% dull white powdery quartz carbonate patches and veinlets with no apparent mineralization or structure.
		33.16 33.20 Quartz Vein Zone - Similar to the leading vein/ fault zone, this zone may represent a weak dull white quartz carbonate crush fault @ 53 DTCA. It is followed 25cm down hole by another 3cm carbonate quartz vein @ 30 DTCA.

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68763	41.20	42.60	1.40	tr	.001	.000	21
68764	49.45	50.65	1.20	tr	tr	.000	10
68765	50.65	51.55	.90	tr	tr	.000	7
68766	60.60	61.10	.50	5	tr	.000	2
68767	69.70	71.00	1.30	1	tr	.000	10
68768	77.45	77.95	.50	1	tr	.000	10
68769	85.50	86.55	1.05	tr	tr	.000	10
68770	106.00	107.00	1.00	tr	tr	.000	10
68771	110.30	110.80	.50	tr	.000	.000	nil
68772	127.45	128.00	.55	tr	.000	.000	nil
68773	140.50	141.65	1.15	tr	.000	.000	nil
68774	164.80	165.50	.70	tr	.001	.000	21
68775	202.60	203.10	.50	tr	tr	.000	5
68776	219.00	219.75	.75	tr	tr	.000	10
68777	219.75	220.75	1.00	tr	tr	.000	7
68778	220.75	221.90	1.15	tr	tr	.000	7
68779	221.90	223.00	1.10	tr	tr	.000	14
68780	228.45	229.10	.65	tr	tr	.000	7
68781	244.10	245.40	1.30	tr	tr	.000	14
68782	266.20	266.80	.60	tr	tr	.000	16
68783	266.80	267.70	.90	tr	.001	.000	17
68784	268.90	269.25	.35	tr	.000	.000	nil
68785	272.00	273.00	1.00	tr	.000	.000	nil
68786	277.90	278.65	.75	tr	tr	.000	7
68787	278.65	279.60	.95	tr	tr	.000	3

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

36.35 53.00 Quartz-Carbonate Vein Zone - Within this segment, the carbonate quartz content increases to about 10%, mainly consisting of scattered fractures associated with zones of crushing which occur randomly throughout the interval. The two major centres may be related to moderate fault/ deformation features @ 41.20-42.60 and 49.50- 52.50m. These structures trend at low angles to the core axis ranging from meandering along the axis to cutting it at angles up to 30 DTCA. Most of the quartz carbonate comprises whispy/ feathery dull white veinlets and streaks adjacent to, or infilling, the fractures. The sulphide content through the interval is nil to trace, however, darker grey, earthy, slip fillings in the lower segment may contain a graphitic component, and, therefore were sampled.

58.25 58.70 Broken Blocky Core - The core here is ground into gravel; fractures are also ground flat or contoured. It is estimated that approximately 15cm was ground, but, there is no evidence of a prominent structure.

59.00 60.60 Broken Blocky Core - This section is basically a continuation of the interval above in which the ends of the pieces of core are ground flat and includes a section of gravel at the end. According to the footage blocks, there are 60cm lost/ ground through this segment. Although there is no evidence of a structure, a 35cm section of core immediately below the ground section (to 60.95m), is mineralized with 3-5% py streaks and grains within a whispy carbonatized zone. Beyond this point, the colour of the wacke darkens to medium bluish grey and the sulphide (fine py) content is trace.

69.70 69.75 Quartz Vein Zone - This is an odd vein that is a creamy olive lime green colour with dull grey linings and a halo of 2% disseminated py. The vein trends @ 20 DTCA and is followed for 10.5m down hole by several similarly coloured narrow veins and and streaks, also with weakly mineralized halos.

77.65 77.80 Fault Zone Quartz Vein Zone - Although comprised of 60% quartz carbonate veining @ 55/ 45 DTCA, the fractures and walls are dark grey coloured, suggesting a possible graphitic component. Grey powdery material on slip faces appear to confirm the presence of graphite. The walls contain 4% patchy and disseminated py.

85.73 85.83 Quartz Vein Zone - This is a strong dull white to dull grey quartz vein @ 35/ 50 DTCA that is well fractured with grey chlorite/ graphite? fillings; parts are also sericitic. A second 3cm vein cuts the core at about 45 DTCA at 86.40m. The walls of some of the bounding slips/ fractures contain minor (<0.5% overall) py streaks.

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

90.80 90.85 Greywacke - In contrast with the section thus far, there is a narrow (1.5cm) bed of fine grained wacke or siltstone that cuts the wacke @ 30 DTCA.

100.26 100.28 Siltstone - Interbedded with the wacke is a 2cm lense of very fine grained medium to dark grey band of siltstone @ 40 DTCA. Many of the angular clasts in the matrix strongly resemble the siltstone and may represent rip up clasts from similar bands.

106.00 110.70 Quartz Carbonate Vein Zone - The quartz carbonate veining within this interval only amounts to about 6% but it consists of the pale olive yellow type with weakly mineralized walls as described above at 69.70m. Veins are up to 2cm in width and cut the core along, or at low angles, to the core axis. Although the walls of the veins are mineralized with 2-3% py over 2-8cm, the overall sulphide content of the interval, is trace. Check samples were taken in the main areas of veining.

127.60 127.70 Fault Zone - This fault resembles terrazzo with angular to subrounded host rock shards/ fragments in a dull grey calcite matrix. It cuts the core @ 37/ 29 DTCA and is followed immediately by two 1.5cm bands of siltstone @ 25 DTCA. Sprinkled in the 2-3cm gap between these bands are 5% disseminated py grains. Although the wacke matrix remains moderately to weakly ankeritic, there is a minor calcitic component, occuring as tiny microfractures and grains that start to invade the matrix as well. Most veining and fracturing continue to be composed mainly of calcite.

134.35 134.50 Carbonated Zone - A 4cm dull grey calcite vein that resembles quartz, cuts the core with sharp contacts @ 15/ 30 DTCA. There is no significant mineralization or alteration in the walls.

140.50 140.65 Quartz-Carbonate Vein Zone - The ends of the interval constitute quartz carbonate veins with accompanying chlorite slips that are partly coated with a grey powder that may be partly graphitic. The veins are up to 3cm wide and trend @ about 50 DTCA but show no evidence of being mineralized. Another 4cm carbonate quartz vein trending @ 40 DTCA occurs 1m down hole from these slips/ veins.

151.60 269.25 Greywacke Carbonated Zone - At about this point, there is a general increase in the overall calcite vein and fracture content which increases to approximately 10%. The veining occurs as dull white to dull grey feathery fracture fillings, veinlets gashes, veins,lenses and patches that are oriented at various angles to the core axis. Despite this increase, there is no significant associated structure or corresponding increase in alteration of the host, which remains medium to light grey coloured, or in mineralization, which remains trace. The end of this section of carbonate veining was

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

arbitrarily taken at a quartz fault zone although there was a general decline in veining up to that point.

165.26 165.38 Fault Zone Quartz Vein Zone - As with a number of other veins, this one may also coincide with a fault structure. Dull grey 2cm quartz carbonate veins are moderately fractured at either contact of the zone and contain grey powdery carbonaceous slips @ 45 DTCA. No mineralization was noted.

176.00 177.60 Broken Blocky Core - The core here is recovered as small chips and pieces, many of which exhibit irregular curved fractures that subparallel the core axis. It appears that the broken core results from the intersection of these fractures with higher angle ones and not from a focussed structure.

202.60 203.10 Fault Zone - This is more of a tectonized zone that has been finely crushed/ semi- mylonititized and mildly altered. Part of the matrix of the structure is weakly chloritic and part, sericitic, both accompanied by two 2cm ragged dull white calcite quartz veins. The veining and structure trends @ 30 DTCA and contains very minor trace sulphides (py).

211.40 220.80 Conglomerate - Through this segment, there is an overall increase in the clast content to about 30% which is manifested in several thick lenses. Pebbles, however, continue to be relatively small, ranging up to 2cm, but averaging well less than 1cm (say about 0.7cm), in a fine to medium grained gritty matrix. The composition of the clasts is also consistent with those described at the start, black to various shades of light to medium grey with buff and bluish tones, and, generally, they are very fine textured, reflecting a primary very fine grained sedimentary or volcanic origin. Again, there are no felsic coloured clasts of any kind. Contact are gradational and mineralization and alteration are the same as the surrounding wackes.

219.51 219.55 Fault Zone - This is a quartz carbonate alteration fault @ 55 DTCA that is characterized by a weak streaky chlorite shear zone and mild sericite alteration in the 40cm preceding the FAZ along with 8% dull buff streaky/ gashy carbonate veining. The 4cm heart of the fault consists of moderate dirty greyish yellow alteration with a plug of dull grey quartz carb rimmed with dark grey chloritic fractures. There are no sulphides associated with the zone.

221.00 221.50 Fault Zone - This is another weak shear zone in which the fabric is oriented along, and at low angles (to about 15 degrees) to the core axis. The feature begins at a 5cm crush chlorite quartz vein/ fault @ 48 DTCA. As with the previous interval, there is no significant mineralization associated with the structure except for a sprinkling of fine py near the

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

end of the interval.

228.50 228.80 Quartz Vein Zone - This is a strong vein zone consisting of 75% dull grey and dark grey quartz that has been well fractured and filled with a dark grey chlorite quartz mix. Bounding structures trend at about 20 DTCA with internal fracturing @ 75/ 60 DTCA. The zone is mineralized with trace fine py and is followed 20cm down hole by 40% dull grey quartz patches. From this point, it appears that there is a slight but noticeable increase in the sericite content of the matrix, particularly in the walls adjacent to veins and fractures, which become yellow tinged. Dirty dull grey quartz carbonate veins and gashes also are prominent in the pebbly wackes below this interval. Sampling reflects some of these areas of anomalous veining.

229.40 230.00 Broken Blocky Core - The core here begins as small pieces of broken core but ends on ground, gravelly core. It is estimated that about 25cm of core were lost/ ground at the end of the interval. There is no obvious structure causing the broken core.

245.15 245.45 Fault Zone - The FAZ encompasses two bounding crush quartz chlorite slips/ faults @ 20/ 25 DTCA, the lower coated by a fine blue grey powder (mud?).

266.23 266.30 Quartz Vein Zone - More of a dull white fractured quartz carbonate patch then a vein, the zone ends on a strong chlorite slip @ 65 DTCA. A series of chlorite fractures and quartz stringers meander along the core axis over about 1.5m down hole. Although weakly sericitized, mineralization is confined to a few minor streaks of py, amounting to trace overall.

269.00 269.17 Quartz Vein Zone - The zone comprises a well fractured dull grey quartz carbonate vein with chloritic fractures @ about 50 DTCA that trails below a leading chloritic crush/ shear fault @ 35 DTCA. Some of the inclusions and walls of fractures are weakly sericite (yellowish) altered and contain trace fine sulphides. This structure was arbitrarily taken as the end of the carbonate veined zone that started at 151.60m. Below this point, quartz carbonate veining amounts to about 1%.

272.09 272.43 Fault Zone - The interval defines a crush/ shear alteration quartz fault in which the host wacke has been crushed, to weakly sheared, @ 50- 55 DTCA. Quartz lenses and veins follow the trend with the walls moderatley sericitized and fractures filled with a medium grey chlorite carbonate mix. Trace py and chalcopyrite (cp) grains and smears are hosted in the fault zone. Weak sericite alteration and quartz slivers continue for

From (m.)	To (m.)	Geology

0.5m down hole.

277.90 278.65 Quartz Vein Zone - Approximately 50% dull grey quartz veins, fractures and gashes make up the interval. The veining is finely fractured and crudely oriented @ about 20 DTCA although the contacts are wavey. Mineralization comprises 1-3% py streaks, patches and fracture fillings accompanied by minor cp.

279.20 279.60 Fault Zone - Not really a fault, the interval is cut by a shallow angle (@ 12 DTCA) slip which is coated with a powdery chlorite moly?- graphite mix. The walls contain fractured/ broken quartz vein gashes with trace sulphides.

281.00 467.93 GREYWACKE

The contact between the pebbly phase of the greywacke unit and the following more massive phase was taken at the lowermost significant lense of gritty to pebbly wacke. Beyond this point, the wacke is massive with no evident bedding, medium to light grey coloured with weak blue and greenish yellow overprinting washes, and fine grained with local intercalated gritty lenses. The grit lenses are generally narrower then those in the upper unit and contain finer clasts, although the composition is similar, ie, there are no pink coloured felsic or syenitic pebbles. Weak pervasisve ankeritic alteration of the matrix persists through the interval and a very weak yellowish tone indicates that the host is also intermittently sericite altered. Mineralization is trace overall, except as noted, and MS values continue to hover in the low 0.20's. Most sulphides are associated with minor quartz vein zones, many of which trend at low angles to the core axis and represent the intervals sampled below.

295.90 296.15 Quartz Vein Zone - Another quartz vein zone, it consists of a series of dull to medium grey laminated quartz veins trending @ 30 DTCA. The walls and fractures are weakly mineralized with trace to anomalous py.

306.80 309.55 Quartz Vein Zone - The interval encompasses a series of dull grey to dull white vein zones centred at 307.40 and 308.00m. The former occurs in the wall of a chlorite slip that meanders along the core axis and the latter is associated with a 20cm quartz ankerite vein trending @ 50/ 75 DTCA. Overall, the sulphide content is trace, consisting of streaks and slivers of py and cp in the upper vein and local fine grains and slivers of py elsewhere.

311.85 312.05 Siltstone - A thin band of siltstone cuts the wacke at about 20 DTCA here. It is very fine grained, massive and medium grey coloured.

322.00 325.12 Siltstone - From the upper contact, which is highly irregular and appears to consist of siltstone injected into fractures in

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68788	295.75	296.15	.40	tr	tr	.000	14
68789	306.80	307.65	.85	tr	tr	.000	3
68790	307.65	308.70	1.05	tr	.000	.000	nil
68791	308.70	309.65	.95	tr	tr	.000	14
68792	409.60	410.00	.40	tr	tr	.000	9

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

the fine wacke, to 323.00m, siltstone laminae and fragmented lenses are interbedded with a very fine grained facies of the wacke. The siltstone is very fine grained to aphanitic, medium to dark grey coloured and finely to coarsely bedded @ about 25 DTCA. Individual beds/ lenses are wavey to contorted (soft sediment deformed) and locally fragmented and intermixed with the wacke. From 323.00m to the end of the interval, the siltstone is massive, containing only minor slivers of the wacke. The trailing contact is sharp, natural in part, and along a series of carbonate slips @ about 65 DTCA. Minor segments of siltstone extend up and down hole from the main zone. Up hole at 319.75m, there are medium grey ball textures representing segmented silty beds; below, over about 11m, there are fine swirly bands/ slivers and rip up clasts of the siltstone, amounting to about 1% of the core, slumped into the wackes. Through this mixed zone and below, the wackes continue as described at 281.00m.

347.30 382.00 *Greywacke Siltstone - This is a mixed zone consisting of* approximately 30% dark to medium grey siltstone as described above and 70% fine grained wacke. The siltstone occurs as bands and laminae intercalated with the wacke at low angles (25 DTCA or so), often exhibiting soft sediment deformation features such as wavey bedding, flame structures, intermixing of the two lithologies resulting in included clasts of one in the other, soft sediment stepped faulting (363.40m) and rip up clasts. In places, the siltstone beds subparallel the core axis. The unit is cut by 2% dull grey to dull white carbonate quartz patches, veins, stringers and veinlets trending @ various angles to the core axis but is only weakly mineralized with nil to trace sulphides, mainly in the walls of the veins. The most prominent veins occur at: 357.93m, 6cm @ 60 DTCA with ragged contacts; 363.65m, 8cm @ 62 DTCA; 373.25m, 10cm @17 DTCA; and, 409.70 -409.95m @ 65/ 40 DTCA. Most of the veins consist of dull grey calcite and contain only a minor percentage of quartz. By about 382.00m, the siltstone component decreases to 15%, still occuring as thin beds and patches at low angles to the core axis, and the matrix loses much of the ankerite alteration to become weakly pervasively calcitic. MS values generally continue in the low range between 0.15 and 0.25.

452.50 454.45 Siltstone - This is the first significant interval comprised entirely of very fine grained, medium to dark grey siltstone/ argillite. Locally, it contains minor slivers and wedges of slightly lighter coloured very fine grained wacke with sharp and gradational internal contacts while the bounding contacts are sharp, natural @ 40/ 20 DTCA. The zone is not mineralized or veined and the sussceptibility falls within the overall range of the sediments at 0.14- 0.23.

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		454.45 467.93 Greywacke Siltstone - Through this section, the facies become mixed, with fine wacke predominating but containing interbeds of the dark grey bands of siltstone (15%) and lenses of medium to coarse grit (40%). Internal contacts are gradational back and forth except for some of the siltstones which are sharp @ 15/ 35/ 45 DTCA. The overall colour is medium greenish grey, the susceptibility clusters around 0.19 and mineralization is trace. The veining (1-2%) is calcitic and the matrix neutral, it neither stains with ferricyanide nor fizzes with acid.								
467.93	494.92	CONGLOMERATE GREYWACKE With a leading contact arbitrarily taken where the gritty to pebbly lenses begin to dominate, the hole rolls into a gritty wacke and small pebble conglomerate, which combined, make up 70% of the interval, the remainder comprised of greywacke. All elements are as described previously, the rock chips and pebbles in the grit and conglomerate range from 2-3mm up to 7cm in length but average about 0.5-1 cm and are composed exclusively of volcanic and sedimentary clasts that are various shades of light to dark buff, tan, and green grey. As before, there are no pink or red felsic or porphyritic pebbles. The wacke lenses, which are fine grained, often containing abundant fine chips of grit, along with the conglomerate are generally medium greenish grey coloured. It is through this unit that the overall fracturing and veining increase to about 6-8% with veins trending at various angles to the core axis. Most consist of dull white to dull grey calcite and are narrow, ranging up to 2cm in width. The matrix remains relatively neutral, reacting very weakly to both acid and the ankerite stain. Mineralization does not increase with the veining but continues to run trace, and, MS values remain in a tightly confined range of 0.19- 0.23. At the lower contact, there is an abrupt transition into fine grained massive wacke along a mildly foliated carbonate graphite (weak) zone @ 35/ 45 DTCA.								
494.92	505.35	GREYWACKE At this point, there is a return to a massive wacke unit which is typified by a medium greenish grey colour, massive nature, fine grain size with fine grit lenses. Occasional dark grey patches appear to represent remnants of less altered wacke since the granular textures straddle the contact. The MS values drop to a slightly lower range of 0.11- 0.16 rising up to about 0.20 over the lower 12'. The veining remains strongly calcitic and the matrix, weakly calcitic as well as ankeritic. Although the overall percentage of veining is the same at 6-8%, it is concentrated around two irregular patchy veins at 503.16 (8cm) and 503.81m (5cm) are centred on strong chlorite slips and are mixed with dull grey quartz. The two abovementioned structures trend @ 50/ 45 DTCA but are not accompanied by any increase in sulphide mineralization, in fact, the entire unit runs trace. 495.55 497.00 Broken Blocky Core - The core is broken into chips, slivers, ground core and small pieces with an estimated RQD of 10.	68793	503.00	503.85	.85	tr	tr	.000	12

From (m.)	To (m.)	Geology
		There is no obvious structure or alteration associated with this zone.
505.35	536.00	CARBONACEOUS SEDIMENTS
		The leading contact of this graphitic sedimentary unit is sharp, natural and follows a scalloped contact along the core axis for 0.9m to 506.10m. Sympathetic with the contact, the bedding seems to cut the core along, or at shallow angles (to 30 degrees) to the core axis and appears to be deformed by soft sediment slumping locally. Overall, the host is dark grey to black, very fine grained, weakly bedded, the bedding defined by slightly lighter and coarser grained bands of siltstone. A wacke lense, described below, divides the carbonaceous sequence in half. Overprinting the package is a tectonic fabric that has formed a cataclastic corridor along the core axis from 516.00 to 518.70m in which the host is intermittently broken into angular fragments with the walls and host fractured and filled with carbonate and quartz.
		Mineralization consists of py nodules and disseminated grains scattered through the unit but concentrated mainly around the cataclastic zone where they amount to about 5%, while elsewhere, they average about 0.5%. Dull white carbonate quartz veining, which stands out against the black background, constitutes about 8% of the host but is not noticably enriched with sulphides. Up to 524.30m, the carbonate veining is calcitic whereas below it becomes ankeritic and MS values rise to an average in the high 0.20's within a range of 0.18 to 0.36.
		512.65 514.83 Greywacke - A fine wacke with a minor grit component interrupts the carbonaceous package through sharp bounding contacts on chlorite and carbonate slips @ 45/ 65 DTCA. Typically, it is massive, fine grained but peppered with fine grit, and medium green grey coloured.
		524.50 536.00 Larder Lake Break Broken Blocky Core - The estimated RQD of this interval, which consists of a series of sections of broken core separated by more intact zones of relatively competant core, is 50%. The leading metre is broken into flakes and flat pieces along chloritic and graphitic slips associated with a cataclastic fault @ 20 DTCA. Several broken sections to 530.00m occur in areas of slips and fractures that parallel the core axis while a 5cm pile of graphitic gouge defines a strong fault @ 20 DTCA at 531.20m. A trailing structure over the last metre of the interval was completely ground out and lost but appears to have cut the hole @ 40 DTCA. This structure is interpreted as the Larder Lake Break although it does not follow in the typical location in the ultramafics and is not associated with strong deformation and green carbonate alteration as in hole VI-03-01. There is no mineralization associated with any of these structures however, a jumble of dull grey and white ankerite- quartz

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68794	511.75	512.65	.90	tr	tr	.000	10
68795	512.65	513.75	1.10	tr	.000	.000	nil
68796	513.75	515.00	1.25	tr	.000	.000	nil
68797	515.00	516.00	1.00	1	.000	.000	nil
68798	516.00	517.00	1.00	6	.000	.000	nil
68799	517.00	518.00	1.00	4	.001	.000	24
68800	518.00	518.75	.75	2	tr	.000	7
68801	518.75	520.10	1.35	1	.000	.000	nil
68802	526.35	527.50	1.15	tr	.000	.000	nil
68803	530.95	532.15	1.20	tr	tr	.000	14
68804	532.15	533.15	1.00	1	.000	.000	nil
68805	533.15	534.00	.85	tr	.000	.000	nil
68806	534.00	536.00	2.00	tr	.001	.000	45

From (m.)	To (m.)	Geology
		gashes, fractures and veinlets occur over 1m at 527.00m. Between these two lower structures, the core becomes streaked with lamellar slivers of mild alteration/ bleaching, carbonate, pyrite and altered fractures which define a weak structural fabric @ 40 DTCA.
536.00	555.28	GREYWACKE CARBONATED ZONE
		Although the protolith in this zone is not entirely clear, it appears to be composed of wackes and grit similar to that above the carbonaceous unit but much more strongly altered. The overall colour is a drab green/ olive/ yellowy grey, the various shades reflecting changes in texture and styles of alteration and mineralization. Although strongly altered and finely foliated throughout, some primary textures and features such as the granularity, compositional layering/ bedding, and zones containing larger clasts, are still identifiable. Most of the interval is strongly carbonatized, either invaded by streams and streaks of veins or through pervasive alteration of the matrix. In addition, a central section, which is partly cut by spidery random quartz veining and weak silicification, is well mineralized with 0.5-5% pyrite. These zones are broken out separately below.
536.00	540.07	Carbonated Zone - Leading off the well altered section, below the 1m of lost core at the contact, is a strongly carbonatized light olive/ brown grey and streaky medium green grey section of mixed sediments. The upper section is lighter due to pervasive ankeritization of a fine wacke host while the lower segment, from 537.87m to the end is darker and more streaky in nature reflecting a gritty to fine fragmental component. Several well defined bands as at 536.30, 537.20, 537.60, 537.85 and 539.50m, as well as others seem to originate as sedimentary beds of slightly different compositions all trending @ 40- 50 DTCA. As mentioned, both the matrix and veining/ streaking are ankeritic while MS values range from 0.15- 0.21 in the upper section and 0.25- 0.27 in thre more chloritic trailing zone. Mineralization is confined to widely disseminated fine py crystals and localalized trains of coarser grains which combined, amount to only trace.
540.07	541.78	Siltstone (altered) - The grain size fines through a fairly sharp natural contact @ 55 DTCA into a massive, very fine grained, medium to light grey green mottled siltstone unit over the leading 65cm and ends with a fine to medium grained foliated wacke. This interval is also pervasively ankeritic but veining/ streaking is minimal. Mineralization increases to an average of 0.5% disseminated fine to medium grained py with a susceptibility of 0.22- 0.27.
541.87	544.35	Pyritic Silicified Zone - The zone is more veined than silicified but it is strongly pyritic and sericitic. Beginning on a 1.5cm chlorite carbonate weak wavey shear @ 40 DTCA, the

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68807	536.00	537.15	1.15	tr	.003	.000	89
68808	537.15	538.30	1.15	tr	.001	.000	45
68809	538.30	539.20	.90	tr	.000	.000	nil
68810	539.20	540.05	.85	tr	.000	.000	nil
68811	540.05	541.10	1.05	1	.000	.000	nil
68812	541.10	541.75	.65	1	tr	.000	3
68813	541.75	542.55	.80	3	.000	.000	nil
68814	542.55	543.50	.95	3	.000	.000	nil
68815	543.50	544.35	.85	1	.003	.000	95
68816	544.35	544.85	.50	5	.001	.000	21
68817	544.85	545.80	.95	1	tr	.000	7
68818	545.80	546.75	.95	1	.002	.000	65
68819	546.75	547.65	.90	1	.001	.000	45
68820	547.65	548.45	.80	3	.001	.000	51
68821	548.45	549.35	.90	1	.003	.000	89
68822	549.35	550.00	.65	3	.000	.000	nil
68823	550.00	550.90	.90	1	.001	.000	34
68824	550.90	552.00	1.10	2	tr	.000	10
68825	552.00	553.00	1.00	tr	.000	.000	nil
68826	553.00	554.00	1.00	1	tr	.000	7
68827	554.00	555.30	1.30	tr	.001	.000	24

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		well altered wacke? host is cut by a network of 40% wormy, to shreddy, to thready, to fractured dull grey carbonate quartz veinlets accompanied by dull lime green sericitic fractures and matrix. The host is well mineralized with an average 3% disseminations, fracture fillings and patches of py. The magnetic susceptibility spans a range from 0.11 to 0.32; the carbonate of the veining and matrix is ankeritic.								
	544.35 551.95	Siltstone - Although the upper contact is sharp @ 50 DTCA, the deformation, veining and mineralization (5%) continues over the leading 0.5m. Overall, the host is fine grained, massive, and well altered to a light grungy olive green to tan grey colour. The protolith may be a fine grained sediment as indicated but it lacks the distinctive granular texture and therefore, could also originate as a mafic flow or intrusive that has been strongly altered. It lacks the veining of the preceding interval, containing only about 1-2%, excluding the first 0.5m, but is well mineralized with 0.5 to 3% disseminted pyrite. The magnetic susceptibilities over the upper 4.5m are similar to the preceding altered sediments, ranging between 0.14- 0.31, however, MS values then rise to 4.68 and gradually drop to 0.43 near the end. The matrix remains weakly ankeritic throughout.								
	551.95 553.04	Conglomerate - The texture changes briefly to a host with a dark green chloritic matrix that includes fine to medium (6cm), white to dull grey streaky ankeritic fragments/ clasts. Matrix and fragments are foliated/ elongated @ about 40 DTCA with stretching in a 6:1 ratio. In places, patches, fractures and shears in the matrix are accented by small pink alteration streaks that may reflect slight compositional variations in the matrix. MS values are 0.51/ 0.56 and py is trace.								
	553.04 555.28	Greywacke (transition zone) - The upper contact of this transition zone that marks the end of the overall carbonate horizon, falls on a dark green 1cm chloritic shear @ 40 DTCA. It seems to consist mainly of moderately altered and foliated (@ 40+/- DTCA), fine grained, medium grey wacke that is weakly mineralized with 0.5-1% py over the leading metre. The remainder of the interval comprises a mix of wacke, chloritic lenses, and blobs and slivers of light grey pink felsic? dike and quartz vein material. This melange is weakly mineralized with trace fine py and is weakly ankeritic. MS values are elevated and highly irregular at 2.91- 14.0.								
555.28	568.35	FELSIC DYKE ULTRAMAFIC KOMATIITE ULTRAMAFIC								
		Through a sharp leading contact on a chlorite carbonate slip @ 35 DTCA, the hole roll into a felsic dike ridden segment of ultramafic komatiite. Although the dikes tend to be fine to very fine grained, massive, light to	68828	555.30	556.40	1.10	tr	tr	.000	10
			68829	556.40	557.70	1.30	tr	.001	.000	34
			68830	557.70	558.90	1.20	tr	.002	.000	65
			68831	558.90	559.95	1.05	tr	.001	.000	41

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		medium grey to pink grey coloured, and fairly hard to siliceous, their strong magnetic susceptibilities, which fall into two groupings around 4.50 and 28.0, suggest that they are more mafic in original composition. The dikes range from 2-10 cm wedges and dikelets to individual members up to 80cm in width, and form 40% of the unit. Contacts are all sharp, natural, often irregular and vary in attitude from wavey along the core axis to steep @ 75 DTCA, but generally follow the weak foliation fabric @ 40- 60 DTCA. Overall, they are weakly mineralized with trace py, but locally, where slightly altered as at 565.70m, disseminated fine py may amount to 1% over 15cm.	68832	559.95	561.10	1.15	tr	.000	.000	nil
			68833	561.10	562.50	1.40	tr	.001	.000	38
			68834	562.50	563.75	1.25	tr	.003	.000	120
			33889	563.75	565.10	1.35	tr	.000	.000	nil
			68835	565.10	566.00	.90	1	.000	.000	nil
			68836	566.00	567.20	1.20	tr	.003	.000	114
			68837	567.20	568.35	1.15	tr	.001	.000	27
		The host for the dikes is a dark grey green, chloritic to weakly talcose, ultramafic to ultramafic komatiite rock that is variably deformed and altered with textures ranging from a fine lacey fracturing, to medium shreddy/ shredded carbonate, to weakly foliated (@ 50+/ DTCA) to massive bulbous/ blobby alteration patches. Initially, the carbonate veining and matrix are ankeritic to 560.55m, at which point, both become dominantly calcitic to 562.30m where they again become ankeritic to 564.75m and finally change to calcite with only a minor ankeritic component. Mineralization is relegated to a few trains of py, trace overall, associated with carbonate streaks; MS values in the ultramafic host are somewhat constrained to a corridor of 0.38 to 0.58 with a slightly higher range of 0.97 to 5.73 in one of the bulbous alteration sections from 563.35- 565.05m.								
568.35	605.00	ULTRAMAFIC KOMATIITE								
			68838	568.35	569.50	1.15	tr	.001	.000	45
			68839	585.55	586.70	1.15	tr	.001	.000	27
			68840	586.70	587.70	1.00	tr	tr	.000	7
			68841	587.70	588.90	1.20	tr	.000	.000	nil
			68842	588.90	589.90	1.00	tr	.001	.000	39
			68843	598.50	599.65	1.15	tr	.002	.000	55
			68844	603.20	604.50	1.30	tr	tr	.000	10
			68845	604.50	605.45	.95	tr	.000	.000	nil
		With the contact taken at the lowermost felsic dike @ 40 DTCA, the hole continues in a thick sequence of ultramafic komatiites which are characterized by a dark greenish to bluish grey colour, a fine grain size, and, an overall massive texture that is accented by whispy to finely shreddy carbonate streaks and veinlets. These fine features are the result of local tectonism but also highlight subtle original textures such as flow contact zones and relict polyhedral/ polygonal jointing. Massive central portions of the flows are often slightly coarser grained and more bulbous to massive textured. To 579.55m, the fine veining occupies about 2-3% of the core, whereas below, it increases to 6-8%, apparently related to fracturing in the walls of two strong faults centred at 581.30m and 599.00m as well as a series of narrow felsic dikes. The veining and matrix remain calcitic while mineralization consists of trace fine sulphides, mainly in the walls, and within, the felsite dikes. MS values generally cluster around 0.33 but, locally, rise to isolated values as high as 10.3 (577.70m) but normally, only to about 1.00, particularly amongst the dikes.								
		581.30 581.43 Fault Zone - The interval begins on a 1-3cm patchy carbonate vein zone followed immediately by a 1cm gouge structure @ 23 DTCA. The remainder of the interval is strongly crushed and crumbly but was cored intact. For about 1.5m up and down hole, pink to white carbonate quartz veining, probably associated with the fault zone, increases to 6-8% but does not seem to contain any corresponding increases in sulphides.								

From (m.)	To (m.)	Geology
581.75	589.85	Felsic Dyke Ultramafic - As the heading indicates, there are a series of felsite dikes, ranging from 3 to 90cm, that cut the ultramafics through this corridor. Similarly, a second zone occurs at 599.10 and 604.45m. Within both swarms, the dikes occupy approximately 35% of the host. In general, all the dikes have a similar appearance and characteristics, contacts are variable, ranging from wavey, along the core axis to steep but averaging approximately 60 DTCA, the colour, medium to dark grey to brown grey, a fine to very fine grain size, and strong magnetic signature with MS values ranging from 5.00 53.0. Mineralization generally runs trace but locally becomes anomalous to 0.5% over 10cm or so in sections of the dikes that are weakly altered. Calcite/ quartz veining also seems to increase between the two dike swarms to 6%.
598.75	599.05	Fault Zone - The fault here is weaker then the previous structure at 581.30, beginning and ending with mud gouge slips from 0.2- 1.0cm thick and a central section of partly ground core and mud slips. The bounding structures trend @ 35/ 45 DTCA while a central slip cuts the core @ 26 DTCA.
605.00	702.00	BASALTIC KOMATIITE
		The contact between the ultramafic and basaltic komatiites was taken at the point where the talcose alteration of the host disappears, the fine veining decreases, and the felsic dike swarms end. Overall, the colour becomes more uniformly dark greenish grey with only localized sections that are blue tinged, the host chlorite altered and therefore, harder, and, the texture more massive. In fact, the unit represents a repetative sequence of flows that are defined by alternating fine and medium grained intervals in which the core of the individual flow is medium grained and the contact areas are finer grained and possibly fragmental. Fine lacey white calcite veinlets and threads that constitute approximately 2% of the core, seem to prefer to overprint the finer grained contact areas. In the medium grained central parts of the flows, the texture approaches salt & pepper with fine feathery green black amphiboles and chlorite nested in a dull white feldspathic and calcitic groundmass. Both the veinlets and the carbonate in the matrix are calcitic with the pervasive calcification of the matrix ranging from very weak to moderate. Magnetic susceptibilities generally congregate in a range between 0.31 and 0.44 but frequently modulate up to 1.50. Quartz veining and alteration are non existent and mineralization, trace, as coarse random py cubes except as noted.
606.70	608.85	Pyritic Silicified Zone - The nomenclature here is a misnomer but it serves to highlight this zone which is well mineralized with 2-3% coarse pyrite crystals within a strongly, pervasively calcified, well defined zone. Contacts are relatively sharp @ 20/ 25 DTCA and related to alteration fronts rather than structures or lithological changes, both of

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68846	605.45	606.70	1.25	tr	.000	.000	nil
68847	606.70	607.80	1.10	2	tr	.000	14
68848	607.80	608.85	1.05	3	tr	.000	10
68849	608.85	609.85	1.00	tr	tr	.000	3
68850	689.60	690.90	1.30	tr	.000	.000	nil
68851	690.90	692.00	1.10	1	tr	.000	7
68852	692.00	693.00	1.00	tr	.000	.000	nil
68853	701.00	702.00	1.00	tr	.000	.000	nil

From (m.)	To (m.)	Geology

which are absent here. MS values fall into a lower range of 0.17 to 0.57. It is possible that this zone represents the on strike extention of the mineralized horizon from hole VI-03-01.

657.20 702.00 Basaltic Komatiite - With no textural or colour changes, the magnetic signature of the basaltic komatiite increases to a higher level and begins to fluctuate between 1.00 and 9.00, averaging about 2.00- 3.00.

672.30 702.00 Basaltic Komatiite Ultramafic Komatiite - Again, there is no significant change in the texture but the colour becomes more bluish than green tinted and the matrix softer, more talcose, suggesting, perhaps, a return to a more ultramafic composition of the protolith or slight increase in the overall degree of alteration.

690.90 692.00 Carbonated Zone Basaltic Komatiite - Within this interval, 70% finely shredded calcite imparts a speckled texture to the komatiite. Accompanying this alteration is 1-2% medium py crystals while, outside, the zone is rimmed with a 0.5% halo of coarse py. There is no associated structure or change in rock type to account for this mineralization.

702.00 713.40 FELSIC DYKE BASALTIC KOMATIITE

The talcose basaltic, possibly ultramafic, komatiite unit continues but is intruded by a swarm of felsic dikes that are different from those encountered higher up in the hole. These dikes, that begin and end the interval, range from irregular shaped lenses along the core axis to the widest, at 704.90 to 707.05m, and constitute about 50% of the interval. They are medium mauve to brown grey coloured, medium to coarse grained overall with finer grained chilled margins, and speckled, the coarser textures determined by large amphibole pheno/ metacrysts in a fine to medium grained feldspathic groundmass. Contacts are generally sharp and well defined but highly irregular and often embayed; some dikes contain subangular inclusions of host rock material. The dikes seem to fall into two categories with respect to overall appearance and magnetics, the central thicker ones are darker mauve grey coloured and more magnetic (MS values 24.8- 40.8) while the flanking/ bounding ones are medium pink/ brown grey, more irregular in shape, and less magnetic (0.36- 2.40). Mineralization consists of anomalous fine to coarse disseminated py crystals within the dikes, locally climbing to 0.5% over 20cm.

As mentioned, basaltic (ultramafic?) komatiite remains the host to the dikes. It is soft/ talcose up to about 709.70m at which point it becomes chloritic (harder) and, calcitic about to the end of the main dike at 707.10m where ankerite begins to predominate. The colour remains fairly consistent at dark bluish to greenish grey while fine white and pink spidery to lacey carbonate veining and streaks average about 10% and sulphides trace.

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68854	702.00	703.50	1.50	tr	tr	.000	10
68855	703.50	704.75	1.25	tr	tr	.000	7
68856	704.75	705.80	1.05	tr	.000	.000	nil
68857	705.80	707.00	1.20	1	.001	.000	26
68858	707.00	708.10	1.10	tr	.001	.000	41
68859	708.10	709.40	1.30	tr	tr	.000	7
68860	709.40	710.65	1.25	tr	.001	.000	38
68861	710.65	712.00	1.35	tr	.001	.000	41
68862	712.00	713.40	1.40	tr	.000	.000	nil

From (m.)	To (m.)	Geology
713.40	735.55	BASALT BASALTIC KOMATIITE CARBONATED ZONE

This interval is best described as a transition zone straddling the komatiite and mafic volcanic packages. The leading segment from the contact to 719.00m appears to comprise ultramafic and basaltic komatiites similar to those above. They are soft/ talcose, medium/ dark blue grey coloured, fine grained with a bulbous to agglomeratic looking, probable polygonal/ polyhedral jointed texture to 715.40m, and then become harder (non talcose), while maintaining the same colour and features to 719.00m. The matrix and veining are mildly ankeritic, MS values are relatively high at 13.0 to 29.0, and mineralization, trace.

From a 15cm carbonate chlorite fault zone centred on a mud slip @ 50 DTCA at 719.00m, to another 5cm carbonate chlorite vein/ fault and mud slip @ 80 DTCA at 421.95m, the host consists of a very fine grained, medium brownish to greenish grey, massive flow or series of flows. MS values drop to a range of 1.21 to 12.1, while pale pink to white carbonate (ankerite) veining decreases to 5% and the sulphide content remains trace.

In the next section to 728.00m, the host begins to turn a medium grey green colour within a textural framework that resembles a phase of the basaltic komatiite in which a fine to medium grained speckling/ salt and pepper texture is intersperced with very fine grained sections. Compositionally, the host appears to be basaltic rather than ultramafic, in fact, the susceptibility drops to a narrow corridor between 0.26 to 0.38, similar to the flow package below. Mineralization remains trace, and carbonate veining 5-7%.

The section from 728.00 to 729.80m consists of one massive, fine to very fine grained, bright medium green, sericitic basalt flow. The colour and texture are similar to those that follow lower in the hole; MS values are 032/ 0.38 and sulphides, trace.

728.80 735.55 Carbonated Zone - This interval is treated separately to highlight a strong carbonate overprinting that increases in intensity down hole. The zone, which begins on a sharp, curved carbonate veined contact @ 15/ 20 DTCA, appears to comprise a series of fine grained, massive, medium grey green basaltic flows that have been strongly brittly fractured and invaded by buff coloured ankerite which accounts for 15- 20% of the rock. Several possible, moderately strong, chlorite crush faults cut the package at 733.00m (@ 23 DTCA), 734.00m (parallel to the core axis), and 735.10m (@ 21 DTCA), however, most of the carbonate (quartz) vein material is associated with a trailing 10cm cataclastic fault @ 25 DTCA. Despite the intensity of the veining and deformation, the sulphide content continues to run trace. MS values fall in a narrow zone of 0.26- 0.34 through most of the interval, rising gradually to 0.69 by 734.70m and dropping to 0.13 at the end. For the sake of completeness, the entire carbonate zone was sampled while only spot samples were

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68863	713.40	714.60	1.20	tr	.000	.000	nil
68864	718.95	719.40	.45	tr	tr	.000	3
68865	721.60	722.30	.70	tr	.000	.000	nil
68866	729.80	731.00	1.20	tr	.000	.000	nil
68867	731.00	732.20	1.20	tr	.000	.000	nil
68868	732.20	733.50	1.30	tr	.001	.000	27
68869	733.50	734.60	1.10	tr	.001	.000	31
68870	734.60	735.55	.95	tr	.000	.000	nil

From (m.)	To (m.)	Geology
		taken above.
735.55	845.00	BASALT

Below the carbonate quartz alteration associated with the trailing cataclastic fault zone, the hole enters a thick sequence of massive to spherulitic mafic flows. The upper unit of this package comprises two or more massive fine grained, finely salt and pepper textured, medium yellowy grey green basaltic flows in which the flow contacts are imperceptible. MS values are tightly confined to a corridor ranging from 0.30- 0.40 and mineralization runs trace. The massive flows, which end at 743.12m, are cut by 2-4% random buff white carbonate +/- quartz veins and veinlets that often are haloed with pale yellow green alteration.

From 743.12 to 751.95m, the flows become more intensely altered and veined but the primary texture changes to a spherulitic flow package. Strong buff to dull grey ankerite quartz veins, which form 15% of the rock, are accompanied by varying degrees of light yellow green sricite carbonate alteration that overprints another 30% of the host. As mentioned, the protolith comprises a series of spherulitic flows or pillows in which isolated pale greyish yellow green spherules to 1cm are sprinkled through a light grey green very fine grained groundmass and can be observed to coalesce into what appears to be the centre of the pillows or flows but could possibly be the margins. With the intensity of veining and alteration, it is difficult to identify the exact pillow/ flow margins. Ankerite continues to form the dominant carbonate mineral in the matrix and veining while mineralization remains trace, consisting of the odd speck/ grain of py and cp in within alteration rims in the walls of some veins. MS values fall within a range of 0.20- 0.46.

Below 751.95m, the mafic package becomes a monotonous sequence of massive, equigranular, non- textured/ homogenous, medium to dark grey green/ green, fine grained flows to 791.88m. Flow contacts are difficult to distinguish although a very fine pervasive yellow (leucoxene?) speckling disappears over short intervals in very fine grained corridors that may represent flow contact areas. None of the typical flow margin features such as interflow sediments, breccias, pillows, chilled contacts or selvages, and grain gradations were observed except for an aphanitic chilled margin at 758.86m @ 30 DTCA. MS values are confined to a narrow range of 0.21 to 0.34 through most of the interval with a slight rise to 0.36/ 0.38 from 778.70- 781.10m. The carbonate (quartz) veining drops to 3% white to pink veinlets to 0.5cm with occasional streaks/ patches and veins to 2cm below 772.00m. Within a metre of the contact at 753.00m, the chemistry of the carbonate changes from ankerite to calcite, both in the veining and pervasively in the matrix. Again, minor sulphides (py and cp) are associated with the veining but amount to trace overall and sampling reflects spot checks of these areas.

758.90 759.06 Quartz Vein Zone - The disrupted nature of the trailing 7cm section suggests a weak tectonic/ cataclastic fault zone trending @ 40 DTCA preceded by a leading 4cm dull white quartz

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68871	735.55	736.50	.95	tr	.000	.000	nil
68872	743.00	744.25	1.25	tr	.000	.000	nil
68873	744.25	745.35	1.10	tr	tr	.000	7
68874	745.35	746.25	.90	tr	.000	.000	nil
68875	746.25	747.50	1.25	tr	.000	.000	nil
68876	747.50	748.70	1.20	tr	.000	.000	nil
68877	748.70	749.90	1.20	tr	.000	.000	nil
68878	749.90	751.05	1.15	tr	.000	.000	nil
68879	751.05	752.00	.95	tr	.000	.000	nil
68880	758.80	759.20	.40	tr	.000	.000	nil
68881	761.00	762.10	1.10	tr	.001	.000	41
68882	762.10	762.95	.85	tr	tr	.000	14
68883	765.05	765.85	.80	tr	.000	.000	nil
68884	772.20	773.60	1.40	tr	.000	.000	nil
68885	785.95	787.45	1.50	tr	.000	.000	nil
68886	791.65	792.65	1.00	tr	.000	.000	nil
68887	792.65	793.75	1.10	tr	.001	.000	27
68888	797.55	798.95	1.40	tr	.001	.000	33
68889	801.65	803.00	1.35	tr	.000	.000	nil
68890	803.00	804.25	1.25	2	.000	.000	nil
68891	804.25	805.65	1.40	tr	.000	.000	nil
68892	818.95	820.35	1.40	tr	.000	.000	nil
68893	820.35	821.40	1.05	tr	.000	.000	nil
68894	831.85	833.00	1.15	tr	.000	.000	nil
68895	833.00	833.85	.85	tr	.000	.000	nil
68896	833.85	834.55	.70	7	tr	.000	10
68897	834.55	835.90	1.35	tr	.000	.000	nil

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

vein. Py is somewhat anomalous in the structure but does not exceed 0.5%.

791.88 793.43 Fault Zone - At this point, there is a distinctive change in the texture along a probable crush shear fault structure @ about 35 DTCA that extends over 1.55m to 793.43m, ending at a small pile of rock chips and gouge with a trailing mud slip @ 55 DTCA. Within this corridor, the volcanics are crushed, to streaky/ shreddy, to foliated with local minor mud, gouge slips and chlorite fractures that mimic both structural trends. Both sides of the lower contact are veined/ silicified with dull grey quartz which has been tectonically fractured into a weak cataclastic zone. Along with minor sericite lining some of the fractures is 0.5% py over about 50cm.

793.43 845.00 Basalt - Essentially, the remainder of the mafic volcanic package consists of a series of distinctive massive, pillowed and spherulitic flows. Unlike the previous section in which flow contacts were nebulous, here they are generally outlined by darker green grey/ black chilled margins (797.30m, 805.03m, 821.30m). Pillow rims are finely shreddy/ speckled -remnant fine fragments?/ hyaloclastite?- (794.40m, 819.00m, 819.25m) or fractured and lined with carbonate and sometimes streams of py (801.73m, 807.90m). Variolitic/ spherulitic flows occur in a poorly developed zone at 796.85m and in a single pillow or flow at 818.70m. Overall, the mafic flows are a mottled medium to dark grey green/ green colour, fine to very fine grained, massive (except as noted), veined with 2-3% very fine dull white to pink carbonate and minor quartz veinlets and whisps, and, poorly mineralized with trace py and cp as scattered grains and streaks/ slivers. The magnetic susceptibility varies marginally through the package, ranging between 0.22 and 0.42, but clustering around 0.25, 0.33 and 0.38. Areas of anomalous sulphides along contact zones or the walls of veins were spot sampled.

797.55 800.50 Quartz-Carbonate Vein Zone - Most of the carbonate and minor quartz is related to two whispy dull white veins that are related to ragged fracturing that meanders along the core axis. The walls of the veins/ slips are also riddled with a network of fine thready veinlets that contain only trace sulphides.

803.30 804.10 Pyritic Silicified Zone - Beginning on a mud slip @ 25 DTCA and continuing to a sharp contact @ 30 DTCA that marks the end of the alteration, the zone comprises a fine to medium grained mossaic of silica, ankerite and calcite accompanied by 1-2% disseminated py and a leading shallow angle pyritic lense. The zone appears to constitute an alteration feature rather than a stratigraphic one.

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
831.85	833.00	Quartz Vein Zone - This system is similar to that at 797.55m, a 2 4cm wide dull grey quartz carbonate vein that follows a ragged fracture running down the core axis. Mineralization is restricted to scattered trains of fine py in fractures within the margins of the vein and a 3cm triangle of py near the lower boundary.								
833.85	834.55	Pyritic Silicified Zone - As with the previous mineralized zone at 803.30m, this interval is well silicified and carbonatized, beginning with a gradational leading contact through which silica, carbonate and py progressively increase until, by the end, the sulphide content is estimated at 15%. The zone ends abruptly at a well defined alteration front contact @ 40 DTCA.								
845.00	845.01	End of hole - The hole ends in massive, fine grained mafic flows as described.								

11200 N.T.L.

476847

ICE NATURAL GAS

10800 N. T.L.

927914

927927

892088

O.N.R.

River

VI03-03

VI03-02

892085

894180

Branche 927921

HR 544

RSC 211

RSC 212

249

891860

891856

9880

8564

VI03-04

892089

TECK TWP

OTTO TWP

843782

HWY 66

842660

843400

VI03-01

Lease 106584

844544

16424

842767

544549

Lease 106584

Vigrass Lake

CM 14

CM 15

Lease 106 584

544545

843837

544546

843171

Lease 106 584

9200 N. T.L.

842495

842494

842493

Vigrass Lake

737143

737144

MAGN DECLI = 13

E 9006

E 9006

E 10000

E 10800

E 11000

LOT 11

LOT 10

LOT 11

LOT 10

Scale

0 500 1000

metres

QUEENSTON MINING INC.

KIRKLAND LAKE PROJECT

ONTARIO

VIGRASS LAKE PROPERTY

DRILL HOLE PLAN

Project No.: 75-JV-28	Scale: 1:10,000
N.T.S.: 42A/1	Data by: B.H.M.
Drawing No.: 2	Date: Aug. 2004

QUEENSTON MINING INC

DIAMOND DRILL HOLE RECORD

Drill Hole: VI-03-04

Property: VIGRASS
Northing: 10075.00
Easting: 10500.00
Elevation: 328.00

Collar Azimuth (Grid) 180.00
Collar Dip: -57.00
(0 Degrees Grid equals 0 degrees True)
Hole Length: 537.00

Date Printed: 12 May, 2004

*** Dip Tests ***			*** Dip Tests ***		
Depth	Azi.	Dip	Depth	Azi.	Dip
3.0		-58.0	360.0		-49.0
90.0		-57.0	450.0		-51.0
180.0		-55.0	537.0		-50.0
270.0		-54.5			

Date Started: December 3, 2003
Date Completed: December 11, 2003

Drilled by: H & S
Core Size: NQ
Material left in hole NX CAS- pulled
Core Location: Upper Canada Site 1
Logged by: FR Ploeger

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

SUMMARY LOG

.00	1.50	OVERBURDEN
1.50	39.30	GREYWACKE CONGLOMERATE
39.30	205.65	GREYWACKE
205.65	225.37	CONGLOMERATE
225.37	231.42	CARBONACEOUS SEDIMENTS
231.42	247.50	BASALT BASALTIC KOMATIITE
247.50	269.70	CARBONATED ZONE CARBONATED ULTRAMAFICS
269.70	279.30	ULTRAMAFIC ULTRAMAFIC KOMATIITE
279.30	303.80	ULTRAMAFIC KOMATIITE
303.80	360.25	ULTRAMAFIC ULTRAMAFIC KOMATIITE
360.25	387.95	MAFIC INTRUSIVE BASALT
387.95	412.47	ULTRAMAFIC KOMATIITE
412.47	441.66	BASALTIC KOMATIITE
441.66	537.00	BASALT

42A01SE2024 2.28402 TECK

From (m.)	To (m.)	Geology
.00	1.50	*OVERBURDEN*

The hole is collared just north of the power line near the point where it crosses Highway 66 by Vigrass Lake. Overburden is shallow, consisting of a thin layer of soil and boulder talus.

1.50 39.30 GREYWACKE CONGLOMERATE

Up to 6.0m, the core is moderately well broken up with estimated RQD of 40 and numerous oxidized slips; 1m of core was lost from 4.80- 5.80m on a well oxidized carbonate slip running along the core axis. Below, the core becomes more competent, except for a narrow section of broken core between 10.62 and 10.90m which was recovered as chips; and, oxidized slips persist to 12.65m.

The protolith of the upper portion of the hole comprises a mix of greywacke and gritty greywacke, which forms 70% of the interval, and fine conglomerate and pea gravel, which occur as lenses to 1.5m thick. The wacke is fine grained but becomes more medium grained with the addition of gritty particles and lenses of grit with angular chips and rounded pebbles to 0.5cm. Bedding is absent and contacts between the gritty and conglomeratic facies are gradational. The colour remains essentially the same throughout, medium grey overall with slightly yellow hues in weakly altered sections surrounding some of the vein zones. Within the conglomeratic horizons, which range from 10cm to 1.5m in thickness, the clasts are generally fairly small, rarely to 5cm, and averaging 1-2cm, hence the term 'pea gravel'. Clast composition is restricted to those of a fine grained sedimentary or volcanic provenance in monotone colours consisting exclusively of various shades of grey. There were no pink, red, orange, or yellow coloured ones, no medium or course grained ones, and none that were porphyritic, syenitic, trachytic or granitic, observed.

Except for weak alteration halos around some of the vein zones, the wackes and conglomerates are unaltered or weakly pervasively ankeritic with minor local patches that are weakly calcitic over a metre or so. Dull grey veinlets and veins/ streaks of carbonate to 2cm were generally found to be calcitic rather than ankeritic. Dull grey quartz also forms vein zones, particulary near the start of the hole, which are described sepatately below. Overall, carbonate veining constitutes approximately 1% of the host while quartz makes up 3-4%. There is up to 1% fine pyrite (py) streaks associated with the veining near the start of the interval, but these may be smeared/ deformed equivalents of massive sulphide (py) clasts that also occur through this section. Otherwise, the sulphide content is trace, consisting of very fine py grains scattered through the matrix.

6.10 11.10 Quartz Vein Zone - Quartz veining actually only accounts for 20% of the interval with the strongest veining occuring at 6.10- 6.60m (@ 28 DTCA), 7.26- 7.40m (@ 30/ 40 DTCA), 8.75- 9.05m (@ 42 DTCA), and 10.40- 11.60m (@ 30/ 22 DTCA). In all cases, the veins are dull grey to grey, lined with parallel chloritic fractures, possibly with the odd weak graphite moly fracture, walled with

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68898	5.80	6.10	.30	tr	.000	.000	nil
68899	6.10	6.60	.50	1	.001	.000	45
68900	6.60	7.70	1.10	1	.001	.000	21
68901	7.70	8.70	1.00	tr	.001	.000	17
68902	8.70	9.45	.75	tr	tr	.000	3
68903	9.45	10.70	1.25	tr	tr	.000	11
68904	10.70	11.60	.90	tr	.000	.000	nil
68905	11.60	12.30	.70	tr	tr	.000	2
68906	12.30	13.60	1.30	tr	.000	.000	nil
68907	13.60	14.75	1.15	tr	tr	.000	7
68908	14.75	15.10	.35	tr	.000	.000	nil
68909	15.10	16.15	1.05	tr	.000	.000	nil
68910	16.15	16.55	.40	tr	.000	.000	nil
68911	16.55	17.45	.90	tr	tr	.000	7

From (m.)	To (m.)	Geology
		haloes of weak yellow sericitic alteration, and mineralized with trace to 1% py in the vein zones and, locally, in the walls. Visually, the veins have the appearance of 'ore' type veins rather than the typical dry types normally found in the sediments away from the major break structures.
	14.85 16.40	Quartz Vein Zone - The veins in this interval are similar to those above, dull grey coloured with weak sericitic alteration of internal inclusions and immediate walls. Veins occur at both contacts, the upper, 9cm wide @ 55 DTCA, the lower, 15cm @ 30/ 40 DTCA, and a central one at 15.85m, 8cm wide @ 65 DTCA. None of the veins or walls contain any significant mineralization in this zone.
39.30	205.65	GREYWACKE
		With the loss of the pebbly/ conglomeratic horizons, the hole rolls into a greywacke dominated sequence. It begins fine grained, homogenous, massive (totally unbedded), and medium grey coloured. Up to about 68.70m, there are no gritty lenses, or even any major grit particles in the host although several very fine grained, dark grey, siltstone rip up clasts and jumbled/ broken beds were noted. Below 68.70m, the massive wacke becomes peppered with grit and intercalated minor gritty and pea gravel lenses. Pebbles generally remain less than 2cm in length, averaging less than 1cm. As with the previous pebbly zones at the start of the hole, clasts are uniformly shades of grey with no pink/ red coloured or coarse grained varieties and none of syenitic/ trachytic/ granitic affinities. Alteration continues to be weak, consisting of very mild local pervasive calcification and sericitization around veins while mineralization also remains weak (trace). A few quartz vein zones are broken out, but overall, veining, both quartz, but mostly carbonate (calcite) veining, accounts for perhaps 1-2% of the rock as irregular fracture fillings, veinlets, and streaks to 1cm. MS values fall within a very narrow range of 0.15- 0.21 with the odd erratic value as high as 0.32.
	42.40 44.55	Quartz Vein Zone - The veining here, although weaker than the previous zones, exhibits a similar style, and accounts for approximately 20% of the interval. Veins are dull grey with darker grey patches/ streaks and fractures/ slips, contain trace sulphides, and have weakly altered (sericitized) the wall rock to pale yellow grey. They range up to 2cm in width and generally trend @ 60+/- DTCA.
	49.05 49.25	Quartz Vein Zone - This is a wide quartz vein, trending @ 35/ 40 DTCA with a similar appearance to those described previously, dull grey, with dark grey slivers and fractures and light yellow grey altered sericitic walls. Fine grains and splashes of py may range up to 0.5%.
	51.80 53.10	Quartz Vein Zone - The vein here snakes back and forth along the

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68912	41.60	42.40	.80	tr	.000	.000	nil
68913	42.40	43.25	.85	tr	.001	.000	17
68914	43.25	44.05	.80	tr	.000	.000	nil
68915	44.05	45.00	.95	tr	tr	.000	3
68916	45.00	45.95	.95	tr	.000	.000	nil
68917	48.95	49.40	.45	tr	.000	.000	nil
68918	51.80	53.10	1.30	1	tr	.000	7
68919	77.05	77.50	.45	tr	tr	.000	2
68920	128.75	129.35	.60	tr	tr	.000	3
68921	129.35	129.85	.50	1	tr	.000	10
68922	129.85	130.80	.95	tr	.000	.000	nil
68923	130.80	131.15	.35	2	.001	.000	24
68924	131.15	132.00	.85	tr	.001	.000	23
68925	135.40	136.35	.95	tr	.000	.000	nil
68926	136.35	137.50	1.15	tr	.001	.000	21
68927	137.50	138.70	1.20	tr	.000	.000	nil
68928	138.70	139.60	.90	tr	tr	.000	3
68929	139.60	140.75	1.15	tr	.001	.000	21
68930	140.75	141.55	.80	tr	.001	.000	17
68931	141.55	142.30	.75	tr	.000	.000	nil
68932	142.30	143.20	.90	tr	tr	.000	7
68933	146.55	146.90	.35	tr	tr	.000	3
68934	157.65	157.95	.30	1	tr	.000	7
68935	167.85	168.95	1.10	tr	.000	.000	nil
68936	175.80	177.05	1.25	tr	tr	.000	10
68937	177.05	178.55	1.50	tr	tr	.000	14
68938	178.55	179.15	.60	tr	.001	.000	21
68939	179.15	180.20	1.05	tr	.000	.000	nil
68940	180.20	181.20	1.00	tr	tr	.000	3
68941	181.20	182.05	.85	tr	tr	.000	3
68942	182.05	182.95	.90	tr	tr	.000	10
68943	182.95	183.85	.90	tr	tr	.000	3
68944	183.85	185.20	1.35	tr	.000	.000	nil
68945	185.20	186.00	.80	tr	tr	.000	3
68946	186.00	186.75	.75	tr	.000	.000	nil

From (m.)	To (m.)	Geology
		core axis. It is up to 4cm wide, dull to light grey coloured with dark grey fractures parallel to the walls of the vein, and weakly mineralized with up to 0.5% fine py and the odd splash of chalcopyrite (cp) in both the veins and walls. As with the previous veins, the walls are weakly sericite altered.
77.15	77.20	Quartz Vein Zone - This is a weak quartz vein @ 45 DTCA with a 3cm sericitic alteration halo, grey fractures, and anomalous py.
121.53	121.63	Quartz Vein Zone - Another weak quartz vein @ 40 DTCA, it comprises dull grey to light grey patches and veins with grey fractures and trace py.
129.00		Greywacke Conglomerate At about this point, a number of subtle changes begin to affect the wacke. Staining with ferricyanide solution indicates that the matrix has become weakly ankeritic while carbonate veining is virtually non existent, and, in addition to the ankerite, a yellowish overtone and slight lightening of the medium grey background colour of the wacke suggests weak pervasive sericite alteration as well. These changes may be caused by moderate fracturing/ microfracturing associated with several weak vein zones that cut the core through this interval and which are described in more detail below.
129.40	129.75	Quartz Vein Zone - This is the first of the vein systems that may contribute to the changes in alteration outlined above. The leading contact of the vein zone trends @ 35 DTCA, the trailing contact @ 30 degrees, while internally, the veining and accompanying sericitic crushing/ foliation is wavey. The veins are dull to medium grey and glassy; mineraliation is trace. Down hole from the quartz vein, fine disseminated pyrite becomes anomalous until, at 130.90m, it reaches 8% over 10cm, trailing off quickly to <0.5% in both directions.
136.35	137.50	Quartz Vein Zone - This is more of a zone of crushing accompanied by dull to medium grey quartz (25%) and dark grey fractures filled with chlorite and graphite, all cutting the core at low angles (20/ 12 DTCA). Very fine dusty py ranges from trace to anomalous in the zone.
141.55	142.25	Quartz Vein Zone - The weakest of the quartz vein zones, it comprises about 15% patches and streaks of grey to buff green quartz trending @ 50+/- DTCA. Mineralization consists of trace to 0.5% with py concentrated mainly near the vein material.
146.65	146.76	Quartz Vein Zone - This is a solid vein of mottled dull grey quartz cutting the core @ 30/ 35 DTCA. It contains thin white carbonate ladder fractures and a 10cm halo of up to 0.5% py down hole from the vein.

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68947	189.95	190.75	.80	tr	.000	.000	nil
68948	195.35	195.95	.60	tr	tr	.000	14
68949	201.80	203.25	1.45	tr	tr	.000	7
68950	203.25	204.00	.75	2	.001	.000	24
68951	204.00	204.80	.80	6	tr	.000	3
68952	204.80	205.65	.85	tr	tr	.000	10

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

157.75 157.80 Quartz Vein Zone - This is a minor vuggy, pale pinkish white quartz vein @ 30 DTCA that is rimmed with 2-3% py in the walls over 5-7cm. Otherwise, it has no associated alteration or deformation.

158.66 162.53 Greywacke Siltstone - Medium to dark grey, very fine grained siltstone beds are seen here, intact, for the first time in the hole. Individual beds range up to 8cm in thickness and intersect the wacke @ 20 DTA. Previously, these lenses had been broken up and incorporated into the wacke as rip up clasts whereas here, the siltstone beds occupy approximately 20% of the interval.

167.85 168.95 Quartz Vein Zone - Most of the jumbled veining is concentrated near the start of the interval on a 2cm wide dull grey and dark grey lined/ streaked quartz vein @ 24 DTCA. The next 60cm constitute a mix of dull grey quartz, medium grey siltstone, and olive grey altered fine grained wacke that are all streaked to wavey at about the same angle as the leading vein. The remainder of the zone consists of light olive grey wacke which terminates on a trailing 3cm laminated quartz ankerite chlorite vein @ 40 DTCA.

170.04 177.00 Greywacke Siltstone - The interval comprises approximately 40% dark grey siltstone as 1-3cm lenses @ 15 DTCA at the start but changing to 2 thick beds of 1.3 and 1.5m in the centre trending along, and at low angles to the core axis. It ends with a a narrow lense caught up in a trailing crush quartz chlorite fault @ 45 DTCA. In a few places, the siltstone has been ripped apart and incorporated into the intercalated wacke. Several 3-5cm quartz vein zones cut the core at 177.70 and 179.10m @ 65 and 35 DTCA. All the veins and structures are weakly mineralized with trace sulphides.

182.20 182.50 Fault Zone - Nested within a moderately altered sericitic zone over 0.8m, the fault forms a strong sericte shear zone centred on a 6cm core of dark grey streaked chlorite- quartz-graphite(?) @ 55 DTCA.

185.20 186.70 Quartz Vein Zone - The quartz vein zone comprises 50% dull white to medium grey blobby fractured quartz that appears to be related to chlorite quartz slips that wander along the core axis. Mineralization is trace.

189.95 190.75 Quartz Vein Zone - Here, the dull grey, buff streaked, carbonate quartz consists of a leading and trailing veins of 28 and 10cm trending @ 65/ 40 & 25/ 40 DTCA respectively. Unlike the previous veins, these are streaked/ speckled with fine ankerite shreds but each contains bounding chlorite-graphite(?) slips.

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		192.80 194.25 Siltstone - Streaky thin lenses of siltstone migrate along the core axis through this interval accompanied by chlorite quartz fractures.								
		195.40 196.00 Quartz Vein Zone - This is another blobby/ irregular zone of 40% dull blue grey quartz patches in a moderately sericitic fractured, unmineralized wacke host.								
		203.25 204.80 Quartz Vein Zone - Begining on a sharp chlorite quartz fault/ slip @ 55 DTCA, the main vein follows along the core axis. It is dull grey, wavey to streaky, from 1-4cm wide, and is strongly mineralized along one contact with fine to coarse pyrite crystals. The mineralization occurs as massive trains up to 0.5cm wide in places and averages 4% over the interval. The trailing contact falls on a wavey/ curved chlorite-graphite(?)- sericite fault/ slip @ 45 DTCA.								
205.65	225.37	CONGLOMERATE								
		The greywacke rolls into a section of conglomerate on a 1-2cm dull grey quartz lense @ about 25 DTCA although this is probably coincidence and not a structural control since the contacts are generally gradational. The conglomerate is polymictic to the extent that there are a variety of pebble types, but, as above, they are generally monochromatic shades of grey. However, with the higher degree of sericite alteration, they are also shades of dull greyish olive and yellow green with the odd fuchsitic green carbonate altered clast. Most clasts are fine to very fine grained, but a few are salt and pepper, medium grained/ textured and there was one 8cm pebble that exhibited a porphyritic texture with pale buff yellow altered augite(?) phenos in a fine grained, light yellow grey groundmass with finer shard like grains. At 207.52m, there is a 1cm spherical pyrite nodule floating in the conglomerate. Pebbles are rounded, commonly ranging up to 8cm but average 2-3cm in length, and are clast supported with a fine to gritty wacke matrix and lenses.	68953	211.15	211.55	.40	2	.004	.000	144
		Alteration remains essentially the same as above, weak to moderate pervasive sericite and ankerite alteration with <<0.5% carbonate veining and 1-2% quartz. Mineralization remains trace except for the odd sulphide clast and minor (trace to slightly anomalous) sulphides associated with quartz veining. MS values fall within a range of 0.17 to 0.32, the stronger pebble rich sections averaging somewhat higher at 0.30 while the gritty wacke, particularly near the end, settles at around 0.19.								
		211.15 211.55 Quartz Vein Zone - This is more of fractured/ crushed dirty grey quartz with a jumbled network of black chloritic fractures and no distinctive orientation. Fractures are also filed with 2% py streaks and grains.								
		218.85 225.37 Greywacke - The trailing interval of the conglomerate comprises a gritty wacke with local pea gravel lenses and								

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		abundant (2%) black graphite chips/ clasts to 1cm.								
	224.46 224.60	Carbonaceous Sediments Forming a narrow lense, the black graphitic sediments here foreshadow the thicker sequence to follow. Contacts are sharp, natural @ 35 DTCA, the lower one partly lost in fractured quartz veining.								
225.37	231.42	CARBONACEOUS SEDIMENTS								
		Through a sharp natural contact @ 22 DTCA, the wacke leads into a fairly massive unit of graphitic sediments. The upper metre is well broken up into small pieces related to a 0.5cm black mud/ gouge fault @ 30/ 15 DTCA and a series of fractures that cut the core at a shallow angle (<10 DTCA). Overall, the graphitic zone is black and massive to 228.60m, at which point it lightens gradually with the addition of very fine grained, medium grey siltstone and exhibits faint bedding features @ 25- 30 DTCA. Approximately 5% dull grey irregular carbonate veinlets, streaks, and fractures cut the unit at various angles to the core axis and mineralization consists of trace py as weak streaks and odd grains along the bedding planes and in veins. MS values seem to be slightly higher at 0.27/ 0.29 in the blacker zone at the start, and drop slightly to 0.15- 0.23 for the silty section. The trailing contact is sharp, natural and rolling @ 30 DTCA.	68954	228.00	229.00	1.00	tr	.001	.000	17
231.42	247.50	BASALT BASALTIC KOMATIITE								
		Strong ankerite and sericite alteration have imparted an overall light yellow green colour to the host and masked many of the original textures. Contrasting with the previous hole in the program (VI-03-03) which passed through the graphitic horizon into a mineralized sediment, this hole intersects a unit of what appears to consist of a series mafic massive and pillowed flows. Pillow rims seem evident in a section between 236.00 and 237.00m while interflow sediments are represented by a very fine grained, medium grey silty(?) unit that arcs across half the core at 242.35m and a 25cm lense of fine wacke that cuts the core @ about 25 DTCA at 245.00m. Coarser centres of individual flows are medium grained and grade into finer grained zones towards the flow contacts. The trailing half metre comprises a fine fragmental with ovoid clasts to 1cm. In general, the textures described above are intermixed, with the fine to medium grained massive phases dominating. As mentioned, the matrix is strongly invaded by ankerite and sericite while 3% dull grey, very fine grained, cherty looking, wavey to folded ankerite quartz veins, veinlets and streaks to 2cm cut the host at various angles. The susceptibility is tightly confined to a corridor of 0.25 to 0.33 and sulphides comprise only trace fine isolated grains of py. Sampling reflects spot checks of anomalous vein concentrations.	68955	233.30	234.25	.95	tr	tr	.000	10
			68956	241.35	242.70	1.35	tr	.001	.000	21
247.50	269.70	CARBONATED ZONE CARBONATED ULTRAMAFICS								
		Although the it was difficult to determine the protolith in the preceding	68957	247.50	248.35	.85	tr	.000	.000	nil
			68958	248.35	249.65	1.30	tr	.000	.000	nil

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
		interval, here, strong carbonate streaming, veining and deformation have anhilated almost all the primary textures. Overall, the host is medium greyish olive coloured, with 70% dull grey carbonate streams, foliation planes, streaks, veinlets, slivers, patches and shreds forming shear zones (@ 45 DTCA) and contorted/ wavey/ folded features at various angles. Only two massive horizons, one at the start from 247.64- 248.23m, and the other at 252.26- 253.13m, are not strongly veined and may represent massive greywacke lenses. The contacts are relatively well defined but irregular, at 25/ 25 and 30/ 40 DTCA and the colour medium grey/ olive grey. The lower lense is weakly mineralized with 0.5% fine disseminated py. From 261.00m to the end, the colour of the matrix darkens to medium to dark grey green while the carbonate remains finely to moderately shreddy textured.	68959	249.65	250.85	1.20	tr	.000	.000	nil
			68960	250.85	251.75	.90	tr	.002	.000	62
			68961	251.75	252.35	.60	tr	.000	.000	nil
			68962	252.35	253.15	.80	1	.007	.000	233
			68963	253.15	253.90	.75	tr	tr	.000	10
			68964	253.90	255.20	1.30	tr	.002	.000	69
			68965	255.20	256.40	1.20	tr	tr	.000	7
			68966	256.40	257.60	1.20	tr	.003	.000	86
			68967	257.60	258.25	.65	tr	.000	.000	nil
			68968	258.25	258.85	.60	1	.002	.000	72
			68969	258.85	260.20	1.35	tr	.003	.000	123
			68970	260.20	261.45	1.25	tr	.003	.000	86
			68971	261.45	262.80	1.35	tr	.001	.000	41
		Between the two probable sedimentary horizons at 248.23 and 252.26m, the host is covered with 80% wavey to contorted carbonate streams along the core axis while below, the carbonate becomes shredded, streaky, foliated and patchy, forming about 60% of the host. About 5% irregular quartz veining is mixed with the carbonate throughout the entire unit or cuts the host as veinlike patches. The overall sulphide content remains trace, however, local concentrations of medium grained py reach 0.5% over 0.5m as at 258.50m. The veining is confirmed as ankerite by staining with ferricyanide solution; MS values consistently fall between 0.16 and 0.29, averaging about 0.25. Samples were taken in areas of concentrated quartz veining and anomalous sulphide mineralization.	68972	264.95	266.00	1.05	tr	.001	.000	34
			68973	266.00	267.15	1.15	tr	.005	.000	168
			68974	267.15	268.50	1.35	tr	.001	.000	34
			68975	268.50	269.70	1.20	tr	tr	.000	7
269.70	279.30	ULTRAMAFIC ULTRAMAFIC KOMATIITE								
			68976	269.70	270.80	1.10	tr	tr	.000	7
		The extensive carbonate veining/ streaking stops over a short 10cm section that coincides with an overall change in the characteristic features of the host. The colour changes to dark olive and grey green, the texture becomes fine grained, massive with local fine white speckling and 10% fine carbonate shredding, and, sections become soft/ talcose. The ultramafic has an overall agglomerate- like appearance that resembles polyhedral/ polygonal jointing. The carbonate forms in random, irregular patterns and is not foliated as before although, compositionally, it remains ankeritic. Dull white quartz forms in the core of some wider veins and occurs as isolated patches, but amounts to only 2% overall. MS values climb into a slightly higher range of 0.27- 0.46, averaging about 0.40, before rising to 0.68/ 0.57 by the end. The pyrite content continues to run trace with local clusters of coarse py crystals becoming anomalous over 2-5cm.	68977	270.80	272.15	1.35	tr	tr	.000	10
			68978	278.35	279.00	.65	tr	.000	.000	nil
279.30	303.80	ULTRAMAFIC KOMATIITE								
		The upper contact was taken at a 2cm crushed and gouge fault zone @ 55 DTCA. Basically, the texture remains the same but the carbonate content and degree of alteration both decrease. The protolith becomes harder, more chloritic(?) rather than talcose with only isolated small 2-3cm wide gashes of talc along fractures or in small envelopes adjacent to carbonate veinlets/ shreds. It is also darker, green black/ grey coloured overall with massive, but									

From (m.)	To (m.)	Geology

locally, agglomeratic type textures that exhibit pillow like rims. In places, such as at 295.00- 296.00, they may reflect possible interflow rubble/ flow (top) features, but, it is more likely that they represent polyhedral/ polygonal jointing of the massive komatiitic flows. No spinifex quench textures were noted in the interval. The cores of some of the polygonal joints are medium to dark olive grey coloured, perhaps indicating selective alteration or slight geochemical variations between core and rim/ joints. Weak whispy dull white carbonate, (1-2%) that accents the fabric is calcitic as is the groundmass from 281.00m down. It is through the ultramafic komatiite that the susceptibility rises overall to an average of 20.0 with local values as low as 0.50 and as high as 36.3. Mineralization is nil to trace, confined to the odd speck of py in the carbonate.

303.80 360.25 ULTRAMAFIC ULTRAMAFIC KOMATIITE

At 303.80m, there is a sudden change to a pervasive talcose alteration beginning on a weak slip @ 30 DTCA. The textures from the previous komatiite unit continue into the talcose phase but the dark grey base colour begins to take on both green and blue tones. The polyhedral/ polygonal joints and agglomerate type textures are not as well defined but a 25cm section at 311.85m exhibits what appears to be a fine spinefex texture. Overall, the host is massive and fine grained with local finely carbonate speckled patches that give it a medium grained aspect and 1-2% white carbonate whisps that weakly highlight the textures/ fabric. Susceptibilities begin at 33.9 and gradually drop in gentle undulations to 0.67 before flattening to a mean of 0.35 within a tight range of 0.31- 0.39. Most of the carbonate in the veining is calcitic and mineralization is nil to trace except for a minor anomalous 25cm zone of 10% coarse py at 309.30m.

315.80 317.00 Broken Blocky Core Fault Zone - The core is broken into small chips and larger pieces to 14cm around two bounding faults. The upper fault consists of 2cm of mud/ gouge @ 40 DTCA followed by 15cm of strongly crushed host and a 25cm white carbonate quartz vein that follows the core axis. Characterizing the trailing fault is a laminated/ banded mud gouge and white carbonate stringered structure @ 45 DTCA. Apart from a talc, the walls were not altered or mineralized.

329.80 330.50 Mafic Intrusive - With sharp, wavey contacts @ 57/ 17 DTCA, the first of several intrusives of varying chemistry cuts the ultramafics. The MI is medium/ dark bluish grey coloured, similar to the host, but it has abruptly lost the talc and the streaky carbonate veining of the ultramafic. MS values also climb to 1.30/ 2.20 and 0.5% coarse py crystals are sprinkled through the dike. Overall, it is fine grained but becomes slightly coarser (medium grained) near the centre, resembling the coarser phase of a massive flow. The matrix and minor fine veining are calcitic. A similar dike, with only one contact exposed, meanders along the core axis from 331.40- 332.30m.

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68979	308.15	309.00	.85	tr	.000	.000	nil
68980	309.00	309.55	.55	tr	.000	.000	nil
68981	309.55	310.00	.45	tr	.001	.000	34
68982	330.00	330.95	.95	tr	tr	.000	10
68983	339.00	340.25	1.25	tr	.000	.000	nil
68984	345.55	346.30	.75	tr	.011	.000	19
68985	352.80	354.00	1.20	tr	.000	.000	nil
68986	354.00	355.50	1.50	tr	tr	.000	7
68987	355.50	356.70	1.20	1	.001	.000	41
68988	356.70	358.00	1.30	1	tr	.000	3
68989	358.00	359.20	1.20	tr	tr	.000	7
68990	359.20	360.35	1.15	tr	.001	.000	30

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
335.65	336.35	Mafic Intrusive - This intrusive is also similar to the ones above, fine grained with tendencies to a medium grain size, medium/ dark greenish to bluish grey, non talcose, elevated susceptibilities ranging from 0.27/ 0.28 at the contacts to 5.28 in the middle, and a massive nature. Contacts are sharp, the leading contact falling on a 2.5cm carbonate calcite vein/ slip @ 42 DTCA, and, the trailing one, wavey @ 15 DTCA. The MI also contains ultramafic pods/ inclusions to 8cm but only trace py. Two other narrow dikes cut the core at 339.05-339.35m with wavey contacts @ 12/ 25 DTCA, and at 340.05-340.25m, a light pink grey dike with bounding, ragged, chlorite carbonate slips @ 25/ 45 DTCA.								
342.12	346.25	Mafic Intrusive - Beginning on a low angle, wavey contact @ about 12 DTCA, the intrusive cuts off the veining from the talcose ultramafic host. It is massive, fine grained with slightly coarser, salt and pepper textured phases, medium/ dark grey coloured, moderately magnetic with MS values from 0.49- 10.4 and contains several ultramafic inclusions ranging from 3cm to 30cm (at 343.05m). The groundmass of the MI is mildly pervasively calcitic but mineralization is trace. Only the trailing 0.5m, adjacent to the altered lower contact on the 1.5 carbonate chlorite fault @ 45 DTCA, is mineralized with anomalous to 0.5% disseminated medium py crystals.								
346.25	360.25	Ultramafic - The remainder of the interval comprises typical ultramafic host as described at the start at 303.80m. It is soft/ talcose, fine grained with 8% fine whispy, lacey, finely shredded dull white calcite veinlets that partly define the fabrics of, and partly cut, the host, and, dark grey coloured with greenish and bluish hues. MS values fall into a narrow range of 0.24 to 0.31 with slightly elevated values (0.45-0.64) approaching the lower contact. Veining and matrix are weakly calcitic while the sulphide content is trace with a slightly enriched corridor of anomalous to 0.5% very coarse py crystals between 352.80 and 358.00m. The trailing contact with the zone of intrusives is sharp, beginning along a chlorite slip @ 20 DTCA.								
358.50	358.51	Fault Zone - The FAZ consists of a tight 2mm thick, light grey blue, mud slip @ 18 DTCA.								
359.20	359.75	Mafic Intrusive - Both contacts if this mafic intrusive are zig zag in nature, and somewhat broken trending roughly @ 20 DTCA. It also is massive, fine grained, medium grey coloured, unmineralized, weakly calcitic and strongly magnetic at 32.3.								
360.25	387.95	MAFIC INTRUSIVE BASALT								
		As the heading implies, 80% of the interval is dominated by a swarm of mafic	68991	360.35	361.60	1.25	tr	tr	.000	7
			68992	361.60	363.00	1.40	tr	tr	.000	10

From (m.)	To (m.)	Geology

(to syenitic/ syenitized) dikes that cut the mafic volcanic host. From the start, to 367.10m, all the intrusives exhibit similar characteristics, a fine grain size with slightly coarser phases that are weakly salt and pepper textured, local chilled contacts, a massive nature, and an overall medium grey colour with mauve/ maroon tinged sections. Through this leading section, the dikes intrude at 360.25- 363.13m with sharp contacts @ 20/ 40 DTCA, 364.00- 364.20m with chilled contacts @ 35/ 35 DTCA, 364.40- 364.65m, with irregular to wavey chilled contacts @ 33/ 14 DTCA, at 367.30m, a half moon/ scalloped contact, and 366.35- 366.80m, with sharp contacts @ 35/ 40 DTCA. These dikes are mineralized with trace sulphides and MS values range from an average of 3.50 in the upper dike to 24.0/ 37.6 in the narrow central ones to 0.40 in the trailer. There is an overall change in chemistry of the carbonates in the veining and matrix from calcite to ankerite at about 363.10m.

From 367.10 to 372.00m, a reddish coloured dike intrudes the package with a sharp leading contact @ 57 DTCA and a trailing contact lost in a 1' section of lost/ ground core as mentioned by the drillers. In fact it almost appears as if an 80cm very fine grained, medium red coloured leading dike intrudes a fine grained, medium to dark pink grey, massive, porphyritic one containing 2% scattered orange pink altered(?) euhedral feldspar phenocrysts to 1cm through the upper portion of the dike; the possible internal contact at 367.90m, trends @43 DTCA. Although the MI's near the start of the interval contain only trace sulphides, the red/ pink coloured ones are mineralized with anomalous to 0.5% disseminated py. Ms values fluctuate from 0.38- 31.0 in the reddish phase to a range of 0.38 to 17.1 in the porphyritic phase.

A highly fractured, medium pink, 5cm felsite dikelet at 373.35m, which partly trends along the core axis, is followed by 50cm of mafic flow material. The hole then encounters a mix of variably textured dikes that seem to intrude one another and which include virtually indistinguishable lenses/ patches of volcanic host that are well altered and blend into the dike material. Mafic intrusives similar to those at the start appear to intrude the mottled/ spotty medium pink grey series of dikes that are laced with 5-7% white carbonate fractures and veinlets. Most internal contacts of the later dikes trend @ 20- 35 DTCA, while the early reddish (syenite looking) ones seem to cut the mafic volcanics at higher angles, around 55 DTCA. Neither phase is particularly well mineralized but the pyrite content of the red dikes is marginally more prominent (anomalous but <<0.5%) than the trace background of the mafic intrusives and the host volcanics. MS values continue to run erratically through both phases, ranging between 0.20 and 34.0, whereas that of the volcanic inclusions is relatively stable, ranging between 0.29 and 2.38, but generally remaining below 1.00. The carbonate fracturing and veining, as well as the matrix, are ankeritic apart from very minor late fractures which are weakly lined with calcite.

As mentioned, the host to this swarm of mafic and syenite looking (syenitized?) dikes has changed from an ultramafic to a possible mafic volcanic/ komatiitic protolith. This is determined by a absence of any talc, including that in small alteration pods or adjacent to veins, a change to a more medium green grey colour and change to a texture without the polygonal

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
68993	363.00	364.30	1.30	tr	tr	.000	3
68994	364.30	365.75	1.45	tr	.000	.000	nil
68995	365.75	367.10	1.35	tr	.001	.000	27
68996	367.10	368.00	.90	1	.006	.000	196
68997	368.00	369.00	1.00	tr	.001	.000	34
68998	369.00	370.20	1.20	tr	.001	.000	27
68999	370.20	372.00	1.80	tr	tr	.000	10
69000	372.00	373.10	1.10	tr	.001	.000	24
52412	373.10	373.90	.80	tr	.000	.000	nil
52413	373.90	375.00	1.10	tr	.001	.000	24
52414	375.00	376.30	1.30	tr	.001	.000	21
52415	376.30	377.00	.70	tr	.000	.000	nil
52416	377.00	377.85	.85	tr	tr	.000	7
52417	377.85	379.30	1.45	tr	.001	.000	34
52418	379.30	380.80	1.50	tr	.002	.000	57
52419	380.80	381.90	1.10	tr	tr	.000	7
52420	381.90	382.90	1.00	tr	.001	.000	24
52421	382.90	384.00	1.10	tr	tr	.000	14
52422	384.00	385.00	1.00	tr	.001	.000	48
52423	385.00	386.35	1.35	tr	.001	.000	18
52424	386.35	387.45	1.10	tr	tr	.000	3

From (m.)	To (m.)	Geology

jointing and other features typical of the ultramafics. Because of the alteration induced by the multiple intrusives, most of the original volcanic textures of the volcanics would have been destroyed anyway. The sulphide content is similar to that of the dikes, trace to slightly anomalous.

383.40 383.90 Carbonated Zone - 30% dull white carbonate as patches, gashes and brecciated fragments appear to be related to two weak, ragged chlorite slips @ 25+/- DTCA. The host is weakly altered to a medium brownish grey colour but is not particularly well mineralized.

387.95 412.47 ULTRAMAFIC KOMATIITE

The contact leading into the ultramafic komatiite is arched/ curved at about 45 DTCA. The protolith has the overall appearance of an ultramafic but lacks the talc. It is fine grained/ textured but totally engulfed by a network of fine lacey carbonate veinlets that probably fill a system of microfractures. Furthermore, it is dark greenish grey coloured, and, apparently massive but with local coarse bladed spinifex zones (400.55- 401.30m) although many original features/ textures may be masked by the carbonate veinlets. There are several additional possible spinifex zones at 406.70, 407.10 and 411.20m. The carbonte mineral filling the network of microfractures is ankeritic in composition while some pink coloured later veins that cut the ankeritic mesh are calcitic. Susceptibilities exhibit a wide range of values between 0.26 and 10.7, clustering around 1.40 and 5.00. The host is almost devoid of sulphides, containing only the odd py grain.

388.27 388.28 Fault Zone - This, one of several styles of faults that cut the host near the start, comprises a 1mm mud slip @ 35 DTCA. The slip is immediately preceded by a chloritic cataclastic structure that mimics the attitude of slip. Following the structures above is a ragged curved mud slip at 388.45m and another 2-3mm mud gouge slip @ 25 DTCA at 389.85m.

391.55 391.95 Mafic Intrusive - This is the first of several mafic intrusives that are similar to those in the swarm of dikes above. The leading contact is obscured by a 2cm streaky, pink and dull white carbonate chlorite vein @ 25 DTCA while the trailing contact meanders along the core axis to 392.25m. Overall, it is medium grey coloured, fine grained and massive. Other similar dikes further down hole occur at: 398.90m, 20cm curved sliver that doesn't cut through the core; 401.45m, 6cm at 16 DTCA; 402.25m, 10cm @40 DTCA; 404.46- 405.00m, @ 20/ 10 DTCA; and, 405.62- 406.40, @ 27/ 15 DTCA. All are similar in appearance, unmineralized and are not cut by carbonate veinlets. The MS values range from 0.32 for the leading dike and 0.61/ 0.73 for the lower ones.

412.47 441.66 BASALTIC KOMATIITE

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
52425	393.45	394.15	.70	tr	tr	.000	3
52426	412.15	412.95	.80	tr	tr	.000	2

From (m.)	To (m.)	Geology

Through a sharp contact @ 55 DTCA, there is an abrupt change in colour and texture to a medium yellowy/ olive grey host with local dark green grey sections and a more mottled/ pseudo- agglomeratic to pillowed texture. From the start to 425.10m, the host is veined with 10% dull white quartz carbonate stringers, veinlets, fractures, streaks, lenses and veins to 12cm. Showing through the veining and alteration are relatively undeformed (ie non foliated, sheared or contorted) primary textures such as oval shaped, dull medium grey olive blobs which may represent small pillow like or agglomeratic interflow units with darker coloured quenched rims and thicker, more massive, similarly coloured masses with localized fine needles of spinifex (microfex) as at 414.45, 417.80, and 435.45- 436.35m. In other areas, well defined longer bladed spinifex texture is evident as at 417.62 and 420.90, and 431.80m, although the latter two are somewhat more tenuous. Other sections are more massive in nature and may indicate the massive central sections of flows.

As mentioned, quartz carbonate veining is strongest near the start, dropping to 3-4% below 425.10m. To about 436.55m, the carbonate composition is ankeritic, below, it becomes calcitic. The sulphide content is slightly enriched throughout the zone, consisting of trace to anomalous clusters of medium grained py crystals and two weakly mineralized corridors that are discussed separately below. Susceptibilities consistently fall between 0.20 and 0.34 with a few isolated higher values to 0.40 and one to 2.04.

418.50 419.50 Basaltic Komatiite (mineralized)- This is an odd zone that seems to run down the core axis with half the core mineralized with 1% disseminated py in a fine grained, medium grey, partly silicified matrix while the other half, separated by a ragged chlorite slip, is coarser, with a very fine whispy carbonate lattice defining the texture. Since it covers only part of the core, and the zones are separaed by a structure, the true width and attitute of the mineralized zone cannot be determined.

424.77 425.05 Quartz Vein Zone - The interval comprises a massive, 10cm white milky quartz carbonate vein followed by several narrower stringers, 70% veining overall, @ 35/ 50 and 40 DTCA. There are no associated sulphides or alteration.

429.85 430.75 Mafic Intrusive - With sharp but irregular/ wavey contacts @ 20/ 30 DTCA, the weakly mineralized unit appears to be an intrusive rather than a massive flow. It is medium grey/ green grey, fine grained, unveined in contrast with the komatiite, massive textured, and sprinkled with up to 1% coarse py.

441.30 441.65 Quartz Vein Zone Fault Zone - Two bounding vein zones here are separated by a 10cm band of fine grained, dark/ medium grey olive green altered, fractured, but unveined, massive basaltic komatiite. The veins are fractured into shards by relatively weak chloritic fault structures @ 30/ 30 DTCA. Fractures

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
52427	416.40	417.40	1.00	tr	tr	.000	7
52428	417.40	418.50	1.10	tr	.000	.000	nil
52429	418.50	419.30	.80	tr	.001	.000	24
52430	419.30	420.60	1.30	tr	.000	.000	nil
52431	422.85	423.60	.75	tr	.000	.000	nil
52432	423.60	424.75	1.15	tr	.000	.000	nil
52433	424.75	425.15	.40	tr	tr	.000	7
52434	429.00	429.85	.85	tr	tr	.000	3
52435	429.85	430.80	.95	tr	tr	.000	3
52436	436.35	437.25	.90	tr	tr	.000	14
52437	440.35	441.15	.80	tr	.001	.000	24
52438	441.15	441.70	.55	tr	tr	.000	14

From (m.)	To (m.)	Geology
		through the dull grey quartz carbonate veining are black and irregular and mineralization consists of trace py. The lower contact of the basaltic komatiite, which falls just below the quartz vein zone at the end of the olive coloured alteration, is sharp, natural, wavey @ 37 DTCA.
441.66	537.00	BASALT
		The mafic volcanic package that follows can be broken down into several components with similar features or lithological characteristics as follow: from the start to 451.85m, is a moderately well veined transition zone; from 451.85- 512.10m, comprsises a mix of massive and pillowed flows that is variably altered; and, from 512.10m to the end, encompasses mainly pillowed variolitic flows. Veining throughout consists of dull white to grey calcite, and the matrix is also weakly to moderately pervasively calcitic. Magnetic susceptibilities are generally confined within a range of 0.32- 0.42 with local gradual increases to 2.50 (and to 29.0 at 481.30m) but becoming erratic below 504.50m. Mineralization is trace throughout with local anomalous zones over a few centimetres to 0.5m, the most significant of which, are broken out separately below.
		441.66 451.85 Basalt Quartz-Carbonate Vein Zone - The leading segment of the mafic volcanic package comprises a series of massive, fine to very fine grained, medium grey green coloured, mafic flows that have been tectonically fractured, the fractures partly filled with fine slivers/ streaks of black chlorite and others with 6-8% dull grey/ white to pale orange calcite and quartz. The veining, which ranges from fracture fillings to 25cm patches, is irregular and randomly oriented, and not apparently related to any dominant structure or feature within the zone. Mineralization is trace; Ms values are low, 0.30-0.36 with a gradual rise to 2.54 at 444.90m.
		451.85 512.10 Basalt - At this point, the amount of quartz veining decreases to 2-4%, and the protolith becomes, more clearly, a sequence of massive and pillowed flows. Overall, the colour remains medium grey green with local darker patches and a few sections that are pale grey green altered. Individual flow thicknesses are difficult to determine but flows are generally fine grained, becoming slightly coarser grained to spotty/ speckled in the centres, and very fine grained/ aphanitic near the contacts. Contact zones (457.50, 460.70, 463.55m and pillow selvages (464.95, 465.15m) resemble dark grey to black cooked bands of varying widths that are often overprinted with carbonate veining. As mentioned, the MS values congregate in a narrow corridor between 0.30 0.40, with occasional gradual peaks to 1.36 at 461.95m, 29.0 at 481.30m, and 1.18 at 518.00m. However, beginning at 504.50m, the values start to become erratic, see sawing back and forth between lows of 0.26- 0.37 and highs of 9.46- 36.9. All the carbonate veining,

Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb
52439	441.70	442.65	.95	tr	tr	.000	7
52440	449.10	450.00	.90	tr	.000	.000	nil
52441	457.70	458.55	.85	tr	.003	.000	90
52442	488.00	489.00	1.00	tr	.002	.000	87
52443	489.00	490.15	1.15	tr	.000	.000	nil
52444	490.15	491.15	1.00	tr	.001	.000	27
52445	492.80	493.95	1.15	tr	.002	.000	57
52446	493.95	494.85	.90	tr	tr	.000	14
52447	494.85	496.00	1.15	tr	tr	.000	14
52448	496.00	496.80	.80	tr	.001	.000	24
52449	500.05	501.35	1.30	tr	.001	.000	21
52450	507.20	507.95	.75	tr	.000	.000	nil
52451	507.95	509.40	1.45	tr	tr	.000	10
52452	509.40	510.40	1.00	tr	.001	.000	24
52453	510.40	511.75	1.35	tr	.001	.000	48
52454	521.50	522.50	1.00	1	tr	.000	3
52455	522.50	523.90	1.40	tr	.000	.000	nil
52456	523.90	524.40	.50	2	tr	.000	3
52457	526.95	527.70	.75	tr	.001	.000	17
52458	530.85	531.50	.65	1	.000	.000	nil

From (m.)	To (m.)	Geology	Sample No.	From (m.)	To (m.)	Len (m.)	Sul %	AU OZ/T	AU1 OZ/T	AU2 ppb

as well as that in the matrix, is calcitic. The sulphide content remains trace overall, however local concentrations of coarsely crystalline py of 2-4% over 5cm or so occur in the walls of vein zones and fractures as at 488.50, 490.40, 494.45, 500.15, 506.40 and 507.70m. Sampling reflects some of these py enriched zones as well as increased veining and alteration.

496.20 496.22 Fault Zone - A 0.8m zone of pale grey green alteration is centred on a tight chlorite/ sericite alteration fault @ 53 DTCA. Only minor fracture fillings in the immediate walls of the structure are streaked with coarse py, about 10% over 4cm.

500.14 500.15 Fault Zone - Another tight structure, this sericite chlorite fault @ 65 DTCA marks the change from medium olive green altered to dark green black altered flows. The wall here also is well mineralized with 25% py over 2-3 cm.

507.24 507.33 Fault Zone - In this fault, the walls surrounding a tight central slip @ 55 DTCA are altered to a light brown colour. Finely brecciated/ shreddy carbonate containing 0.5% fine py also rims the structure.

509.40 509.50 Fault Zone - Crushed quartz carbonate vein material is centred around a crush chlorite fault @ 50 DTCA. About 0.5% fine py fills fractures within the zone. A few weak random crush chlorite carbonate patches occur down hole from the fault.

512.10 537.00 Basalt (Variolitic) - This pillowed variolitic unit is the last phase of the mafic volcanic package. Distinctive, light green grey round spherules from 3-11mm occur as isolated variolites, small glomero- clusters and coalesced cores within the medium grey green coloured groundmass of the pillows. Selvages appear as fuzzy dark grey/ black bands and zones separating the variolitic zones at various orientations to the core axiswith the varioles becoming less prominent below 523.00m. Dull grey/ white and pale pink carbonate (with minor quartz) veining averages about 3-4% as fine fracture fillings, veinlets, streaks and irregular patches to 5cm. All of the carbonate veining is calcitic while that of the matrix ia mainly calcitic with a 0.5m section around 533.55m that is weakly ankeritic. Overall, mineralization runs trace, however, local carbonate patches may contain up to 60% py over 5cm as at 524.11m although most mineralized patches may average 0.5-2% coarse py over 5-20 cm. Veining and mineralization both appear to decrease towards the end of the hole.

537.00 537.01 End of hole - The hole ends in a series of massive flows with a few narrow 10cm variolitic sections.

Work Report Summary

Transaction No: W0480.01410 **Status:** APPROVED
Recording Date: 2004-SEP-02 **Work Done from:** 2003-JAN-21
Approval Date: 2004-OCT-07 **to:** 2003-DEC-31

Client(s):

185109 QUEENSTON MINING INC.

Survey Type(s):

PDRILL

Work Report Details:

Claim#	Perform	Perform Approve	Applied	Applied Approve	Assign	Assign Approve	Reserve	Reserve Approve	Due Date
G 8000294	$7,449	$7,449	$0	$0	$0	0	$7,449	$7,449	
G 8080080	$7,919	$7,919	$0	$0	$0	0	$7,919	$7,919	
G 8080081	$22,382	$22,382	$0	$0	$0	0	$22,382	$22,382	
L 842660	$16,130	$16,130	$0	$0	$0	0	$16,130	$16,130	2008-JUN-03
L 842767	$29,160	$29,160	$0	$0	$0	0	$29,160	$29,160	2008-JUN-03
L 843400	$24,243	$24,243	$0	$0	$0	0	$24,243	$24,243	2008-JUN-03
L 843837	$22,718	$22,718	$0	$0	$0	0	$22,718	$22,718	2008-JUN-03
L 927921	$16,736	$16,736	$0	$0	$0	0	$16,736	$16,736	2008-JUN-23
	$146,737	$146,737	$0	$0	$0	$0	$146,737	$146,737	

External Credits: $0

Reserve:

$146,737 Reserve of Work Report#: W0480.01410

$146,737 Total Remaining

Status of claim is based on information currently on record.

42A01SE2024 2.28402 TECK

900

Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining d where work was performed, at the time work was performed. A map showing the contiguous link must accompany this orm.

W0480 00410

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	**Number of Claim Units.** For other mining land, list hectares.	**Value of work performed** on this claim or other mining land.	**Value of work applied** to this claim.	**Value of work assigned** to other mining claims.	**Bank.** Value of work to be distributed at a future date
	TB 7827	16 ha	$26,825	N/A	$24,000	$2,82
1	RSC212/8664 8080081	10.44 ha	$22,382	0	0	$22,382
2	HR 544 8080080	16.03 ha	$7,919	0	0	$7,919
3	Lease 106584 Formerly 544549 et al 8000294	61.45 ha	$7,449	0	0	$7,449
4	842660	1	$16,130	0	0	$16,130
5	842767	1	$29,160	0	0	$29,160
6	843400	1	$24,243	0	0	$24,243
7	843837	1	$22,718	0	0	$22,718
8	927921	1	$16,736	0	0	$16,736
9						
10						
11						
12						
13						
14						
15						
16						
17						
	Column Totals	8	$146,737	0	0	$146,737

I, WAYNE BENHAM (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing	Date
W Benham	Sept 1, 2004

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish t prioritize the deletion of credits:

- ☒ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☐ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp

RECEIVED
SEP 0 2 2004
GEOSCIENCE ASSESSMENT OFFICE

Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature)	

0241 (03/97)

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

Date: 2004-OCT-08

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

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

QUEENSTON MINING INC.
1116-111 RICHMOND STREET WEST
TORONTO, ONTARIO
M5H 2G4 CANADA

Submission Number: 2.28402
Transaction Number(s): W0480.01410

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,

Ron C Gashinski.

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)

42A01SE2024 2.28402 TECK 200

ONTARIO CANADA

MINISTRY OF NORTHERN DEVELOPMENT AND MINES

PROVINCIAL MINING RECORDER'S OFFICE

Mining Land Tenure Map

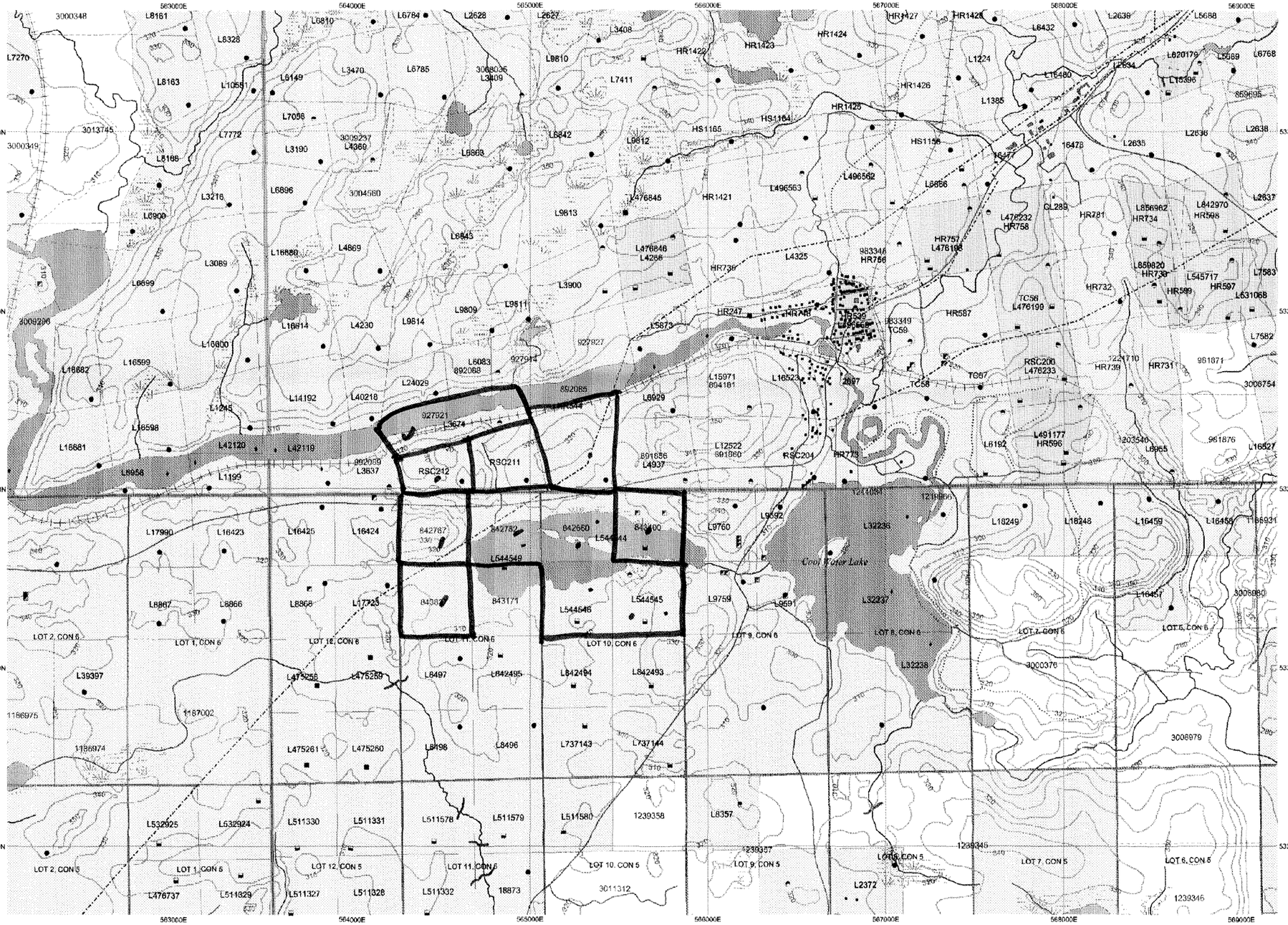
Date / Time of Issue: Thu Oct 07 14:18:00 EDT 2004

TOWNSHIP / AREA
TECK

PLAN
G-3719

ADMINISTRATIVE DISTRICTS / DIVISIONS

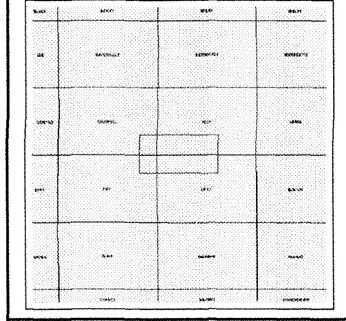
Mining Division	Larder Lake
Land Titles/Registry Division	TIMISKAMING
Ministry of Natural Resources District	KIRKLAND LAKE



UTM Zone 17
1000m grid

TOPOGRAPHIC

- Administrative Boundaries
- Township
- Concession, Lot
- Provincial Park
- Indian Reserve
- Cliff, Pit & Pile
- Contour
- Mine Shafts
- Mine Headframe
- Railway
- Road
- Trail
- Natural Gas Pipeline
- Utilities
- Tower



Land Tenure

Freehold Patent
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

Leasehold Patent
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

Licence of Occupation
- Uses Not Specified
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only
- Land Use Permit
- Order In Council (Not open for staking)
- Water Power Lease Agreement
- Mining Claim
- Filed Only Mining Claims

LAND TENURE WITHDRAWALS

- Areas Withdrawn from Disposition

Mining Acts Withdrawal Types
- Wsm Surface And Mining Rights Withdrawn
- Ws Surface Rights Only Withdrawn
- Wm Mining Rights Only Withdrawn

Order In Council Withdrawal Types
- W'sm Surface And Mining Rights Withdrawn
- W's Surface Rights Only Withdrawn
- W'm Mining Rights Only Withdrawn

Ns IMPORTANT NOTICES

Scale 1:24746

400m 0m 1.2km

2.28402
PDRILL
ASSAY

Those wishing to stake mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources.

The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Northern Development and Mines web site.

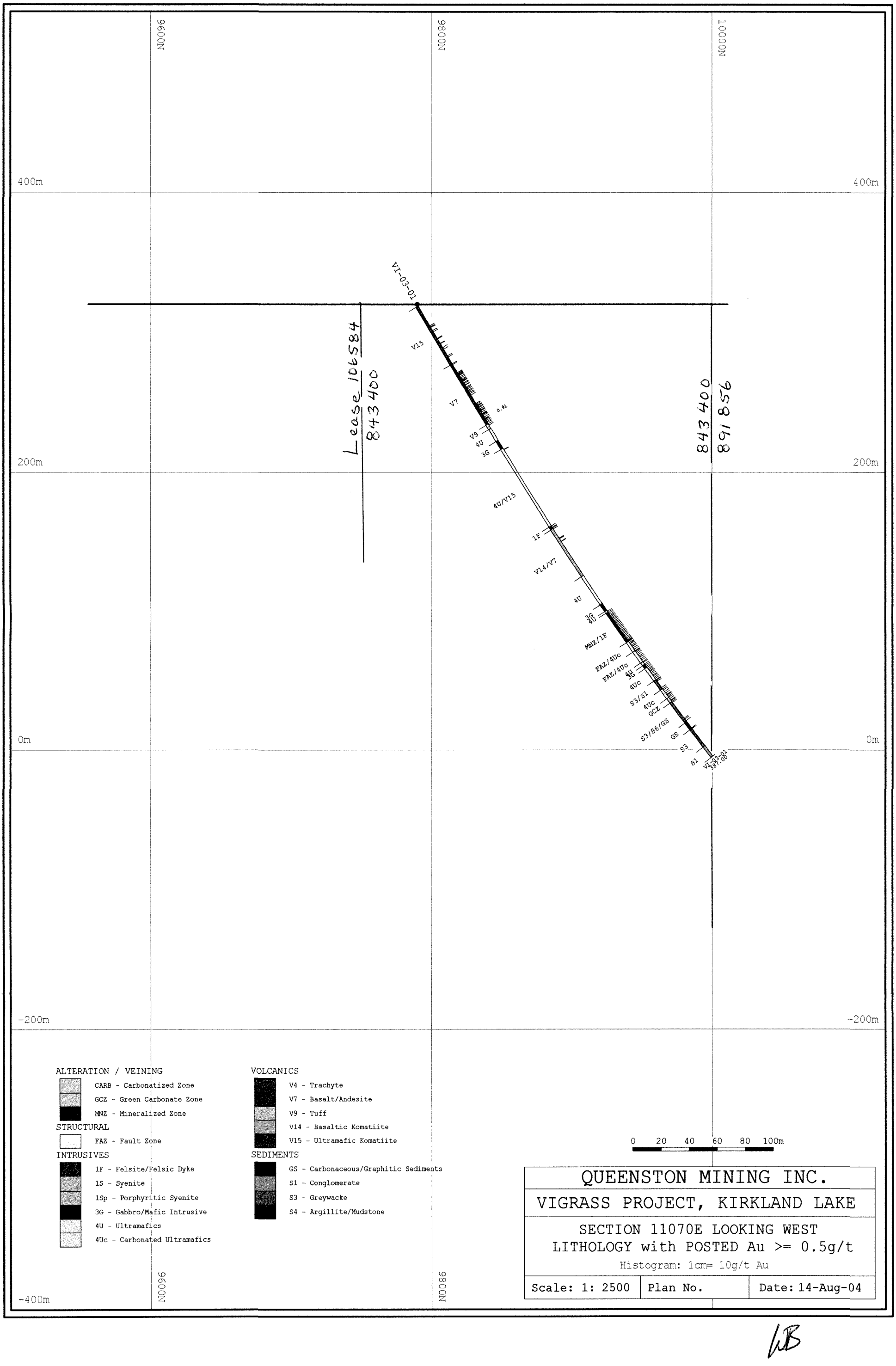
General Information and Limitations

Contact Information:
Provincial Mining Recorders' Office
Willet Green Miller Centre 933 Ramsey Lake Road
Sudbury ON P3E 6B5
Home Page: www.mndm.gov.on.ca/MNDM/MINES/LANDS/mismnpge.htm

Toll Free
Tel: 1 (888) 415-9845 ext 5779
Fax: 1 (877) 670-1444

Map Datum: NAD 83
Projection: UTM (6 degree)
Topographic Data Source: Land Information Ontario
Mining Land Tenure Source: Provincial Mining Recorders' Office

This map may not show unregistered land tenure and interests in land including certain patents, leases, easements, right of ways, flooding rights, licences, or other forms of disposition of rights and interest from the Crown. Also certain land tenure and land uses that restrict or prohibit free entry to stake mining claims may not be illustrated.



QUEENSTON MINING INC.

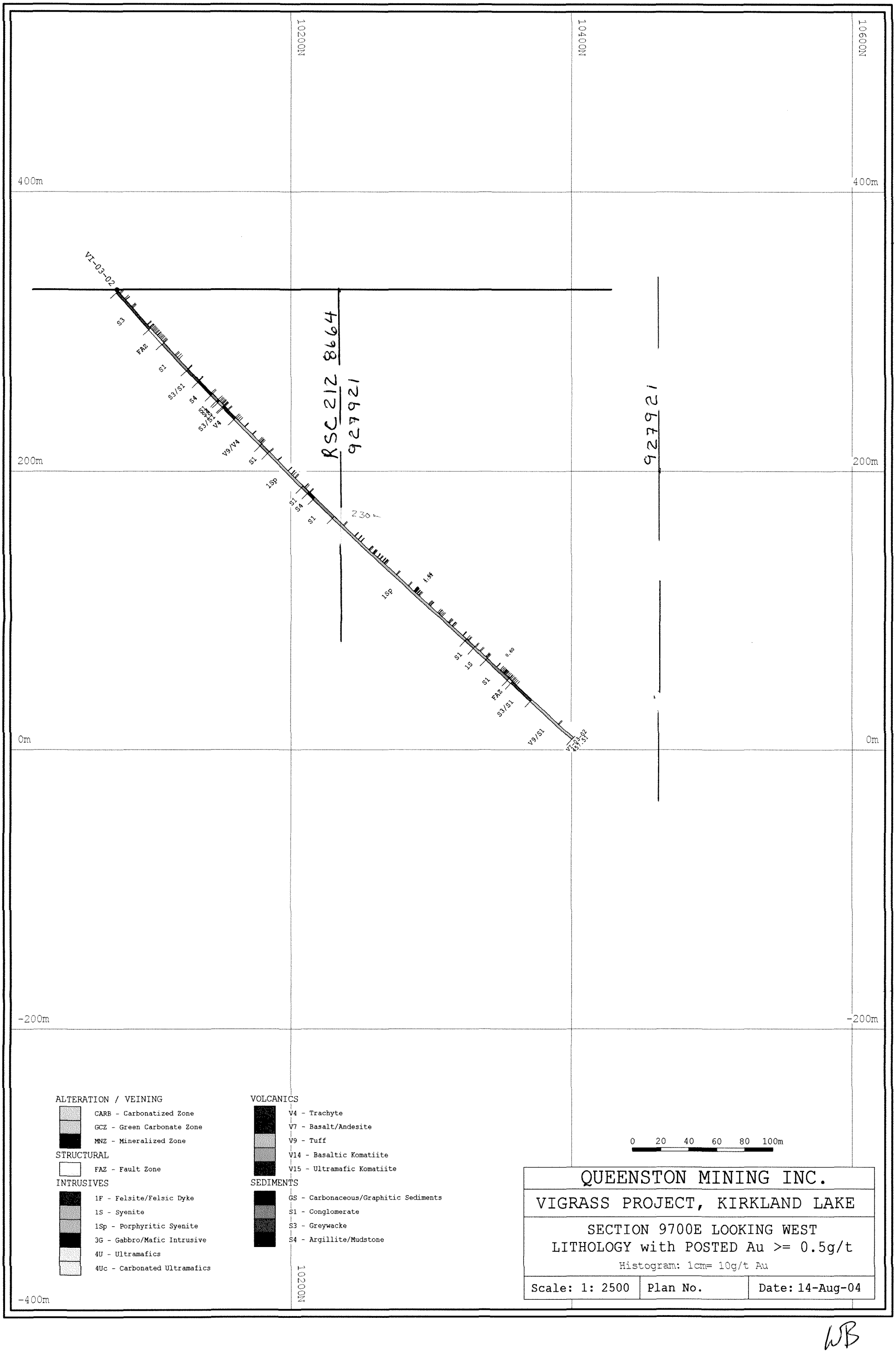
VIGRASS PROJECT, KIRKLAND LAKE

SECTION 11070E LOOKING WEST
LITHOLOGY with POSTED Au >= 0.5g/t
Histogram: 1cm= 10g/t Au

Scale: 1: 2500	Plan No.	Date: 14-Aug-04

WB

42A01SE2024 2.28402 TECK



WB

42A01SE2024 2.28402 TECK

N0096 N0098 N0100

400m 400m

ALTERATION / VEINING
- CARB - Carbonatized Zone
- GCZ - Green Carbonate Zone
- MNZ - Mineralized Zone

STRUCTURAL
- FAZ - Fault Zone

INTRUSIVES
- 1F - Felsite/Felsic Dyke
- 1S - Syenite
- 1Sp - Porphyritic Syenite
- 3G - Gabbro/Mafic Intrusive
- 4U - Ultramafics
- 4Uc - Carbonated Ultramafics

VOLCANICS
- V4 - Trachyte
- V7 - Basalt/Andesite
- V9 - Tuff
- V14 - Basaltic Komatiite
- V15 - Ultramafic Komatiite

SEDIMENTS
- GS - Carbonaceous/Graphitic Sediments
- S1 - Conglomerate
- S3 - Greywacke
- S4 - Argillite/Mudstone

200m 200m

0m 0m

-200m -200m

-400m

VI-03-03

S3/S1

S3

S1/S3

S3

GS

S3/CARB

1F/V15/4U

V15

V14

1F/V14

V7/V14/CARB

V7

VI-03-03
845.00

843837
842767

842746
RSC 212 8964

0 20 40 60 80 100m

QUEENSTON MINING INC.		
VIGRASS PROJECT, KIRKLAND LAKE		
SECTION 9800E LOOKING WEST LITHOLOGY with POSTED Au >= 0.5g/t Histogram: 1cm= 10g/t Au		
Scale: 1: 2500	Plan No.	Date: 14-Aug-04

WB

42A01SE2024 2.28402 TECK

N0096 N0086 10000N

400m 400m

200m 200m

0m 0m

-200m -200m

-400m

Lease 106584

842660

4R 5544

VI-03-04

S3/S1

S3

S1

GS

V7/V14

CARB/4Uc

4U/V15

V15

4U/V15

3G/V7

V15

V14

V7

VI-03-04
537.00

ALTERATION / VEINING
- CARB - Carbonatized Zone
- GCZ - Green Carbonate Zone
- MNZ - Mineralized Zone

STRUCTURAL
- FAZ - Fault Zone

INTRUSIVES
- 1F - Felsite/Felsic Dyke
- 1S - Syenite
- 1Sp - Porphyritic Syenite
- 3G - Gabbro/Mafic Intrusive
- 4U - Ultramafics
- 4Uc - Carbonated Ultramafics

VOLCANICS
- V4 - Trachyte
- V7 - Basalt/Andesite
- V9 - Tuff
- V14 - Basaltic Komatiite
- V15 - Ultramafic Komatiite

SEDIMENTS
- GS - Carbonaceous/Graphitic Sediments
- S1 - Conglomerate
- S3 - Greywacke
- S4 - Argillite/Mudstone

0 20 40 60 80 100m

QUEENSTON MINING INC.

VIGRASS PROJECT, KIRKLAND LAKE

SECTION 10500E LOOKING WEST
LITHOLOGY with POSTED Au >= 0.5g/t
Histogram: 1cm= 10g/t Au

Scale: 1: 2500	Plan No.	Date: 14-Aug-04

N0096 N0086